VOL. XLVI. No 7

JULY 1961

MECCANO MAGAZINE

1/3

FIRE ENGINE FOR HONG KONG

DINKY TOYS ON THE BEACH

If you are spending a holiday at the seaside this year, you will find that Dinky Toys add greatly to the fun of sandplay on the beach. A few suggested models are illustrated below.

Other models (not illustrated) which are particularly suitable:

DINKY TOYS
319 Weeks Tipping Farm Trailer
320 Halesowen Harvest Trailer
408 Big Bedford Lorry
409 Bedford Articulated Lorry
414 Rear Tipping Wagon
431 Guy Warrior 4-ton Lorry
621 3-ton Army Wagon
623 Army Covered Wagon

DINKY SUPERTOYS
622 10-ton Army Truck
934 Leyland Octopus Wagon
961 Blaw-Knox Bulldozer
962 Muir-Hill Dumper Truck
964 Elevator Loader
965 Euclid Rear Dump Truck
958 Snow Plough
893 Unic Pipe Line Transporter

No. 796 Healey Sports Boat on Trailer

Hitch this trailer to any standard Dinky Toys Passenger car and you're away to the sea. The boat is detachable from the trailer; it's made of strong plastic, so it floats.

Length 4¼ in. U.K. Price **3/3**

Dinky Supertoys No. 960 Lorry-Mounted Cement Mixer

Here's a model that is ideal for fun on the beach. It's the Lorry-Mounted Cement Mixer. The bowl is geared to the back wheels of the Albion Chassis and when the vehicle moves the bowl rotates. In addition it can be manually tilted to tip the contents down a chute at the rear.

Length 5⅛ in. U.K. Price **9/6**

Dinky Supertoys No. 966 Marrel Multi-Bucket Unit

This attractive model represents a type of vehicle used for transporting sand and gravel, etc. The material is carried in a removable bucket which rests on the lorry. By means of ingenious lifting arms a loaded bucket can be lifted from the ground on to a lorry and driven to a tipping site; then the bucket can be made to tip its load.

Length 4⅝ in. U.K. Price **10/9**

Dinky Toys No. 188 Four-Berth Caravan

This realistic model is equipped with detailed interior fittings ranging from a dining-table to a draining board. It also has an opening door, spring suspension, glazed windows and rooflight.

A balanced towing hook provides the means for attaching the model to Dinky Toys passenger cars.

Length 5¼ in. U.K. Price **5/6**

DINKY TOYS & SUPERTOYS

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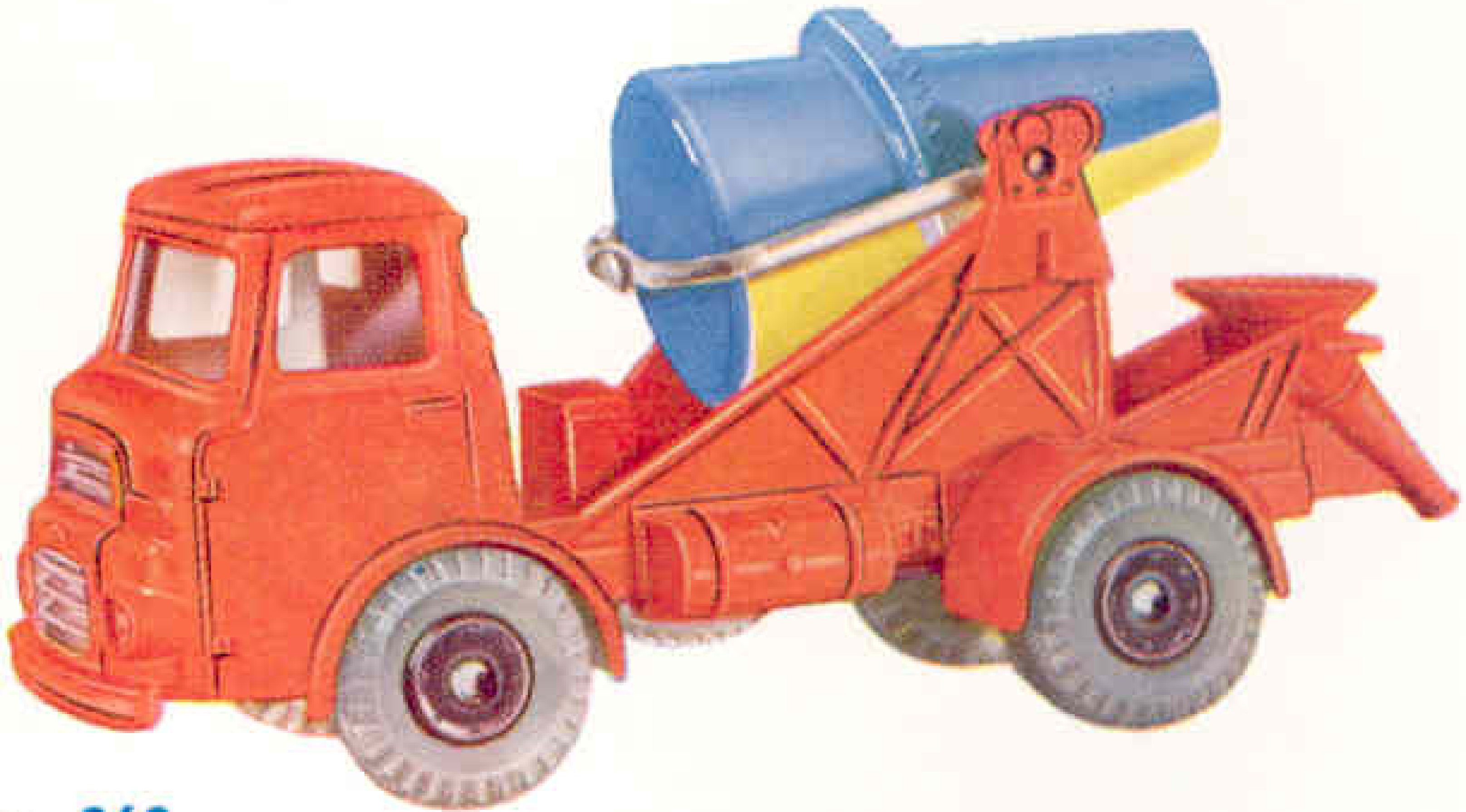

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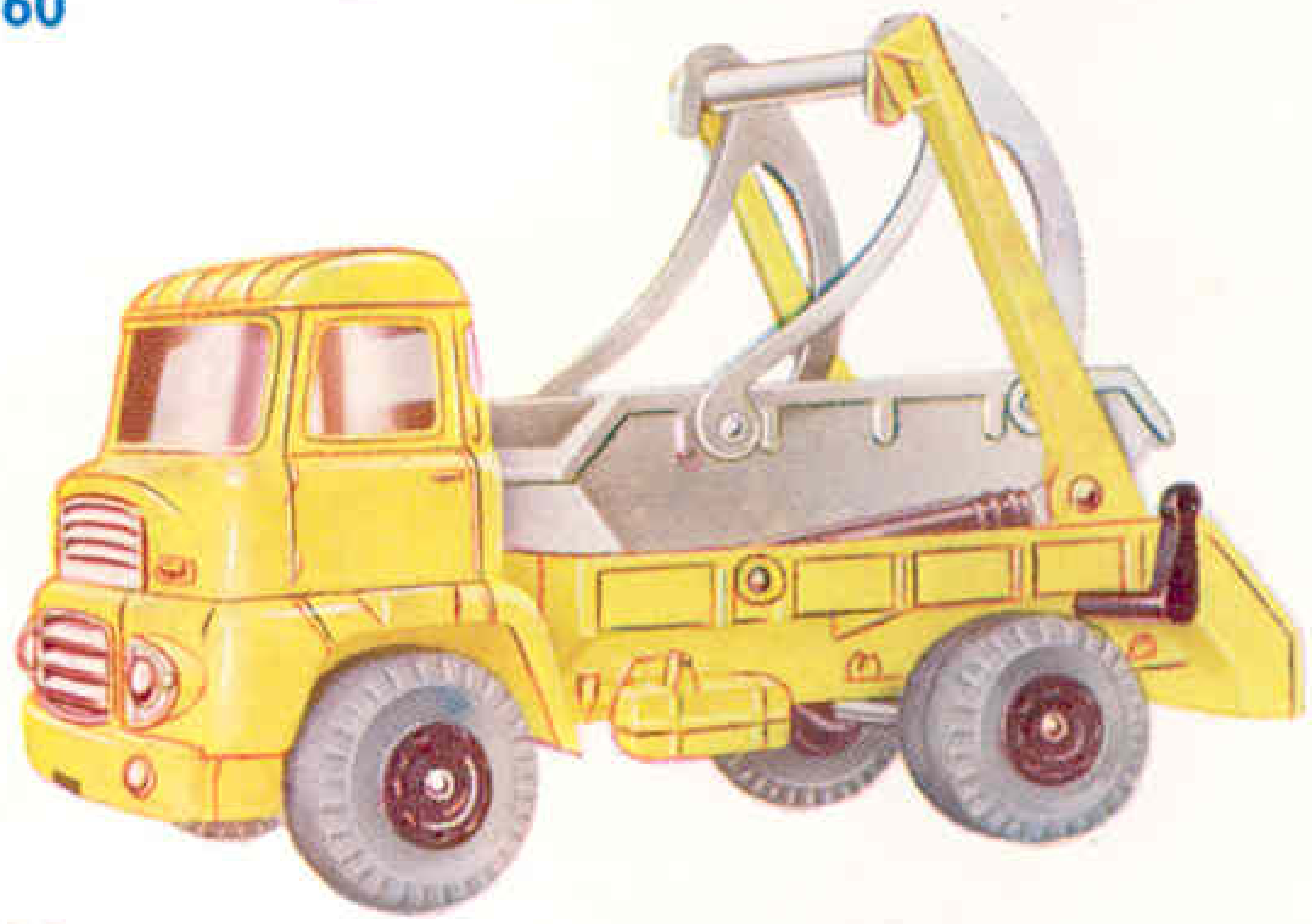

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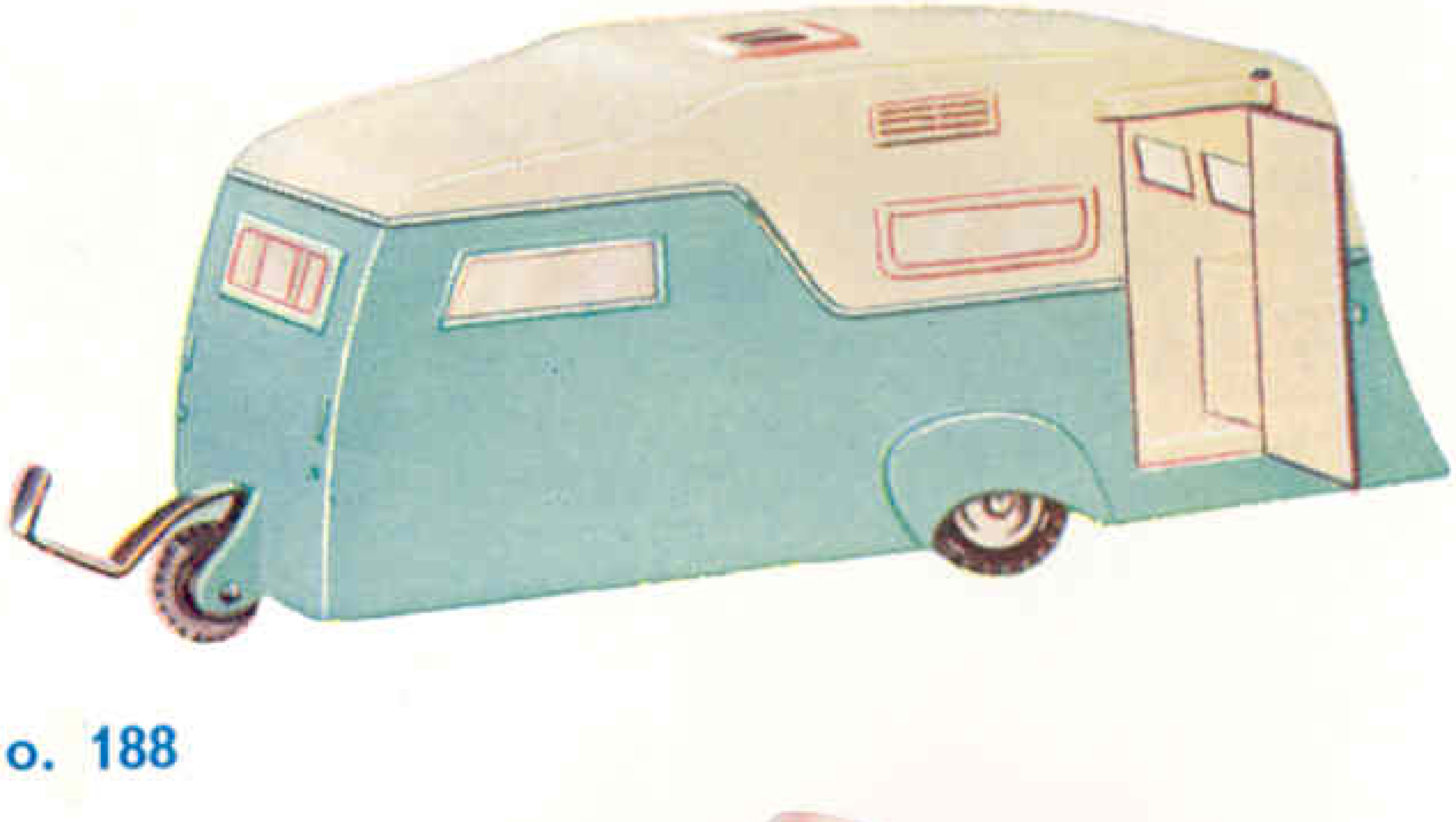

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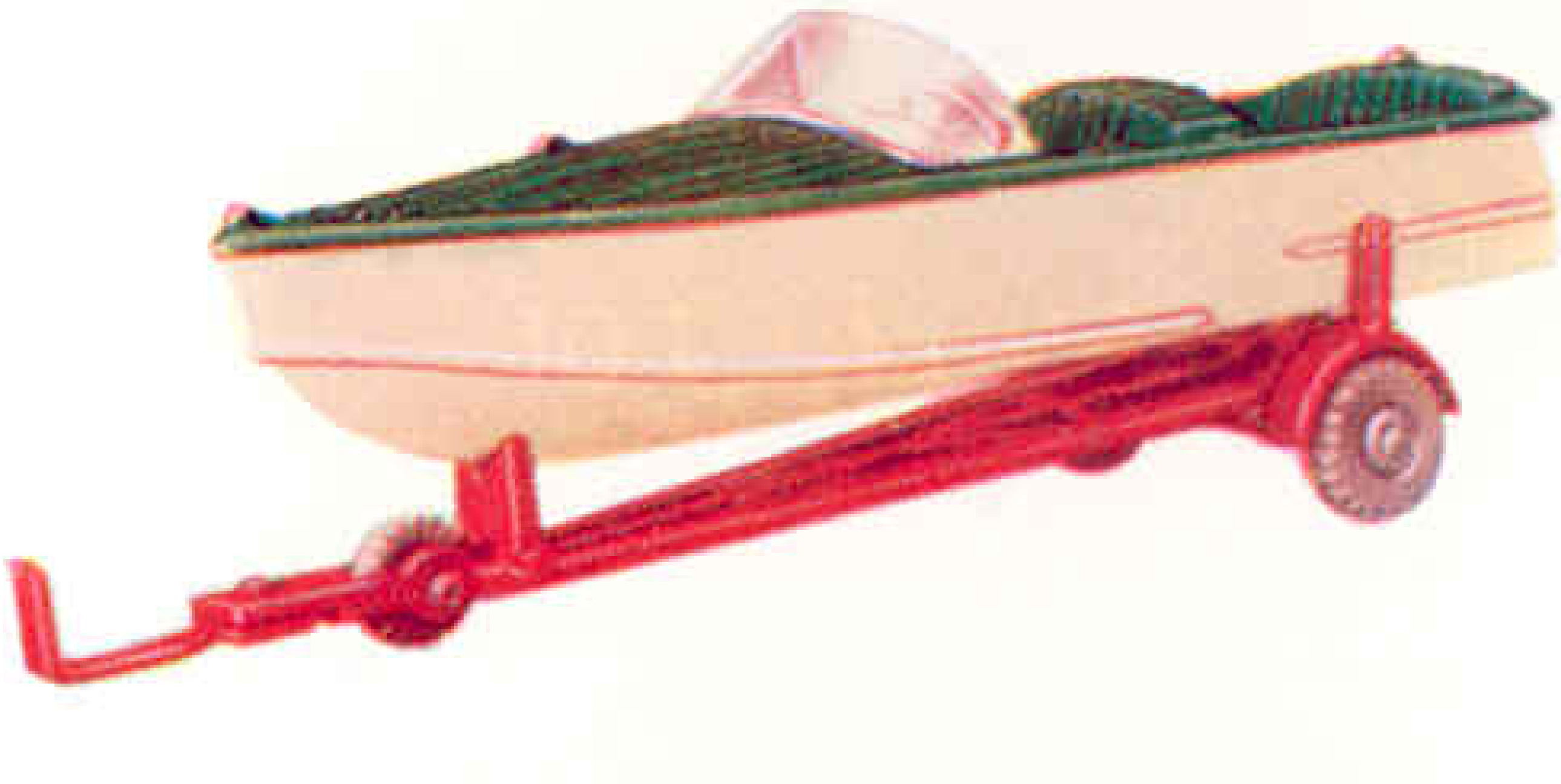

No. 796

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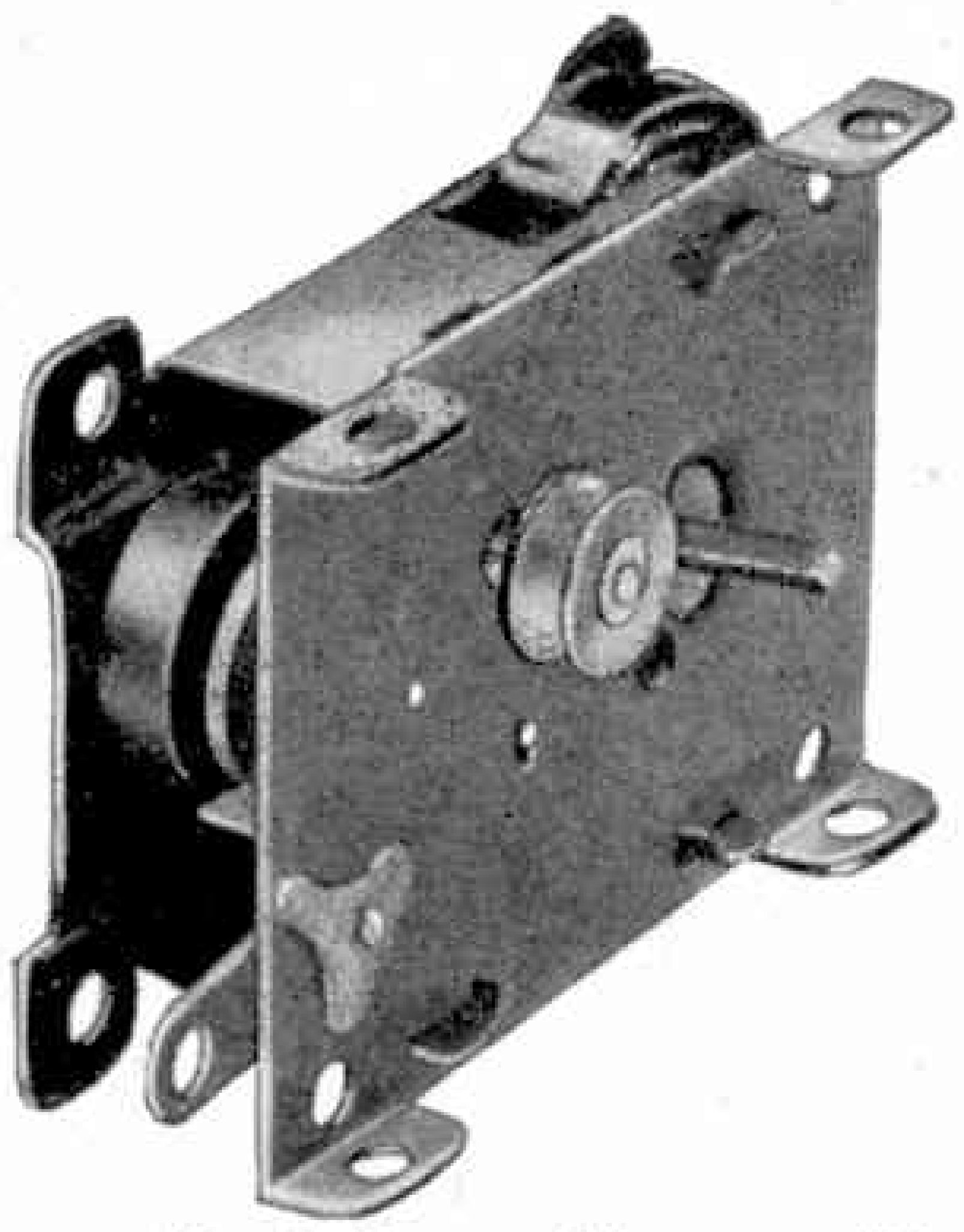
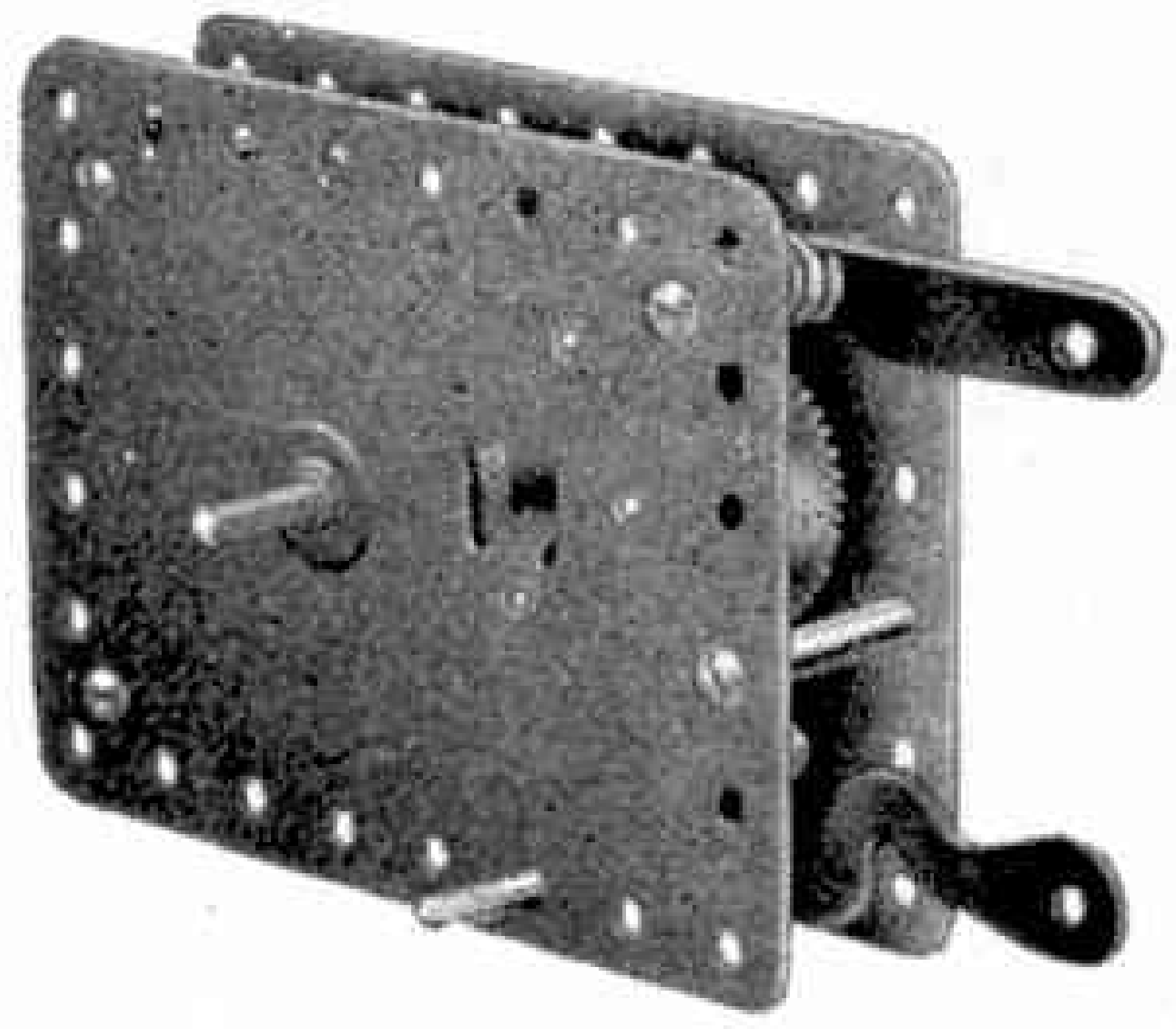
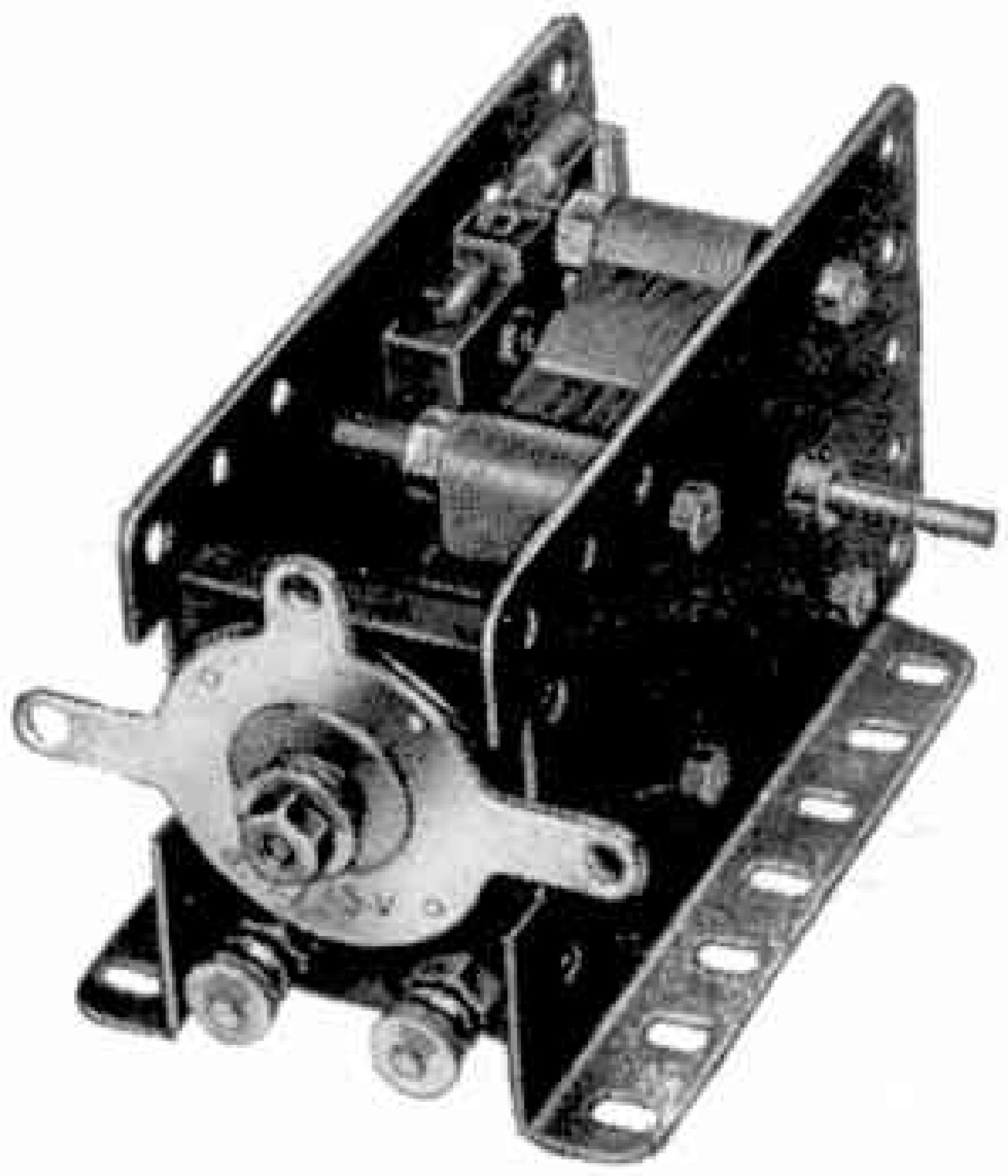
If alternating current is available from the house mains a Meccano Electric Motor can be run through a suitable transformer. Where A.C. supply is not available, the E15R Meccano Motor will be found to give adequate power when run from a 12-volt car battery.



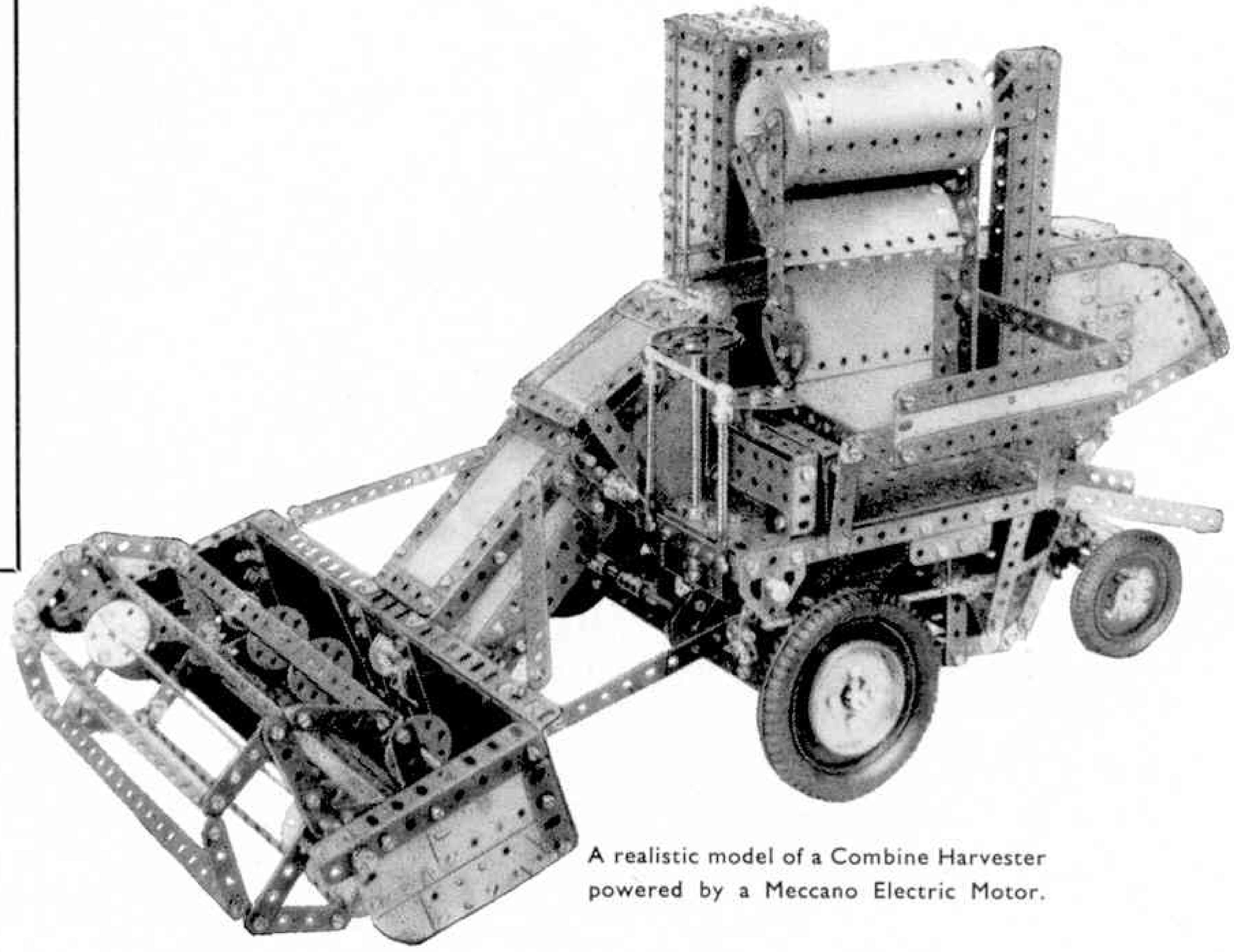
Meccano Magic Motor. Non-reversible, specially intended for driving small models built from Outfits Nos. 00 to 5.
U.K. Price **6/11**



Meccano No. 1 Clockwork Motor. Suitable for driving many of the larger models. It is fitted with reversing mechanism. U.K. Price **£1.0.6**



Meccano No. E15R Electric Motor. A powerful 15-20-volt motor with reversing motion fitted with TV interference suppressors. U.K. Price **£2.2.6**



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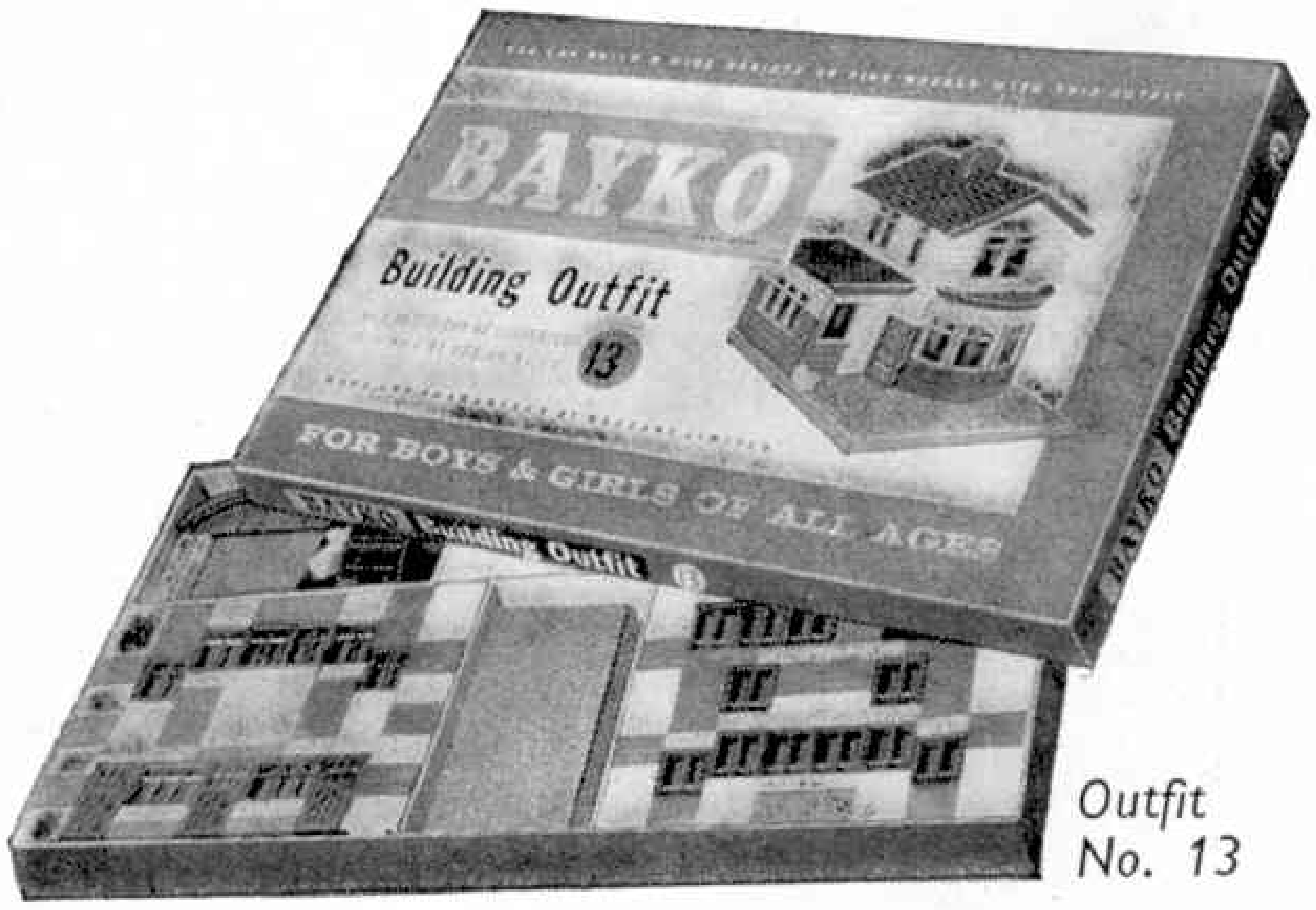
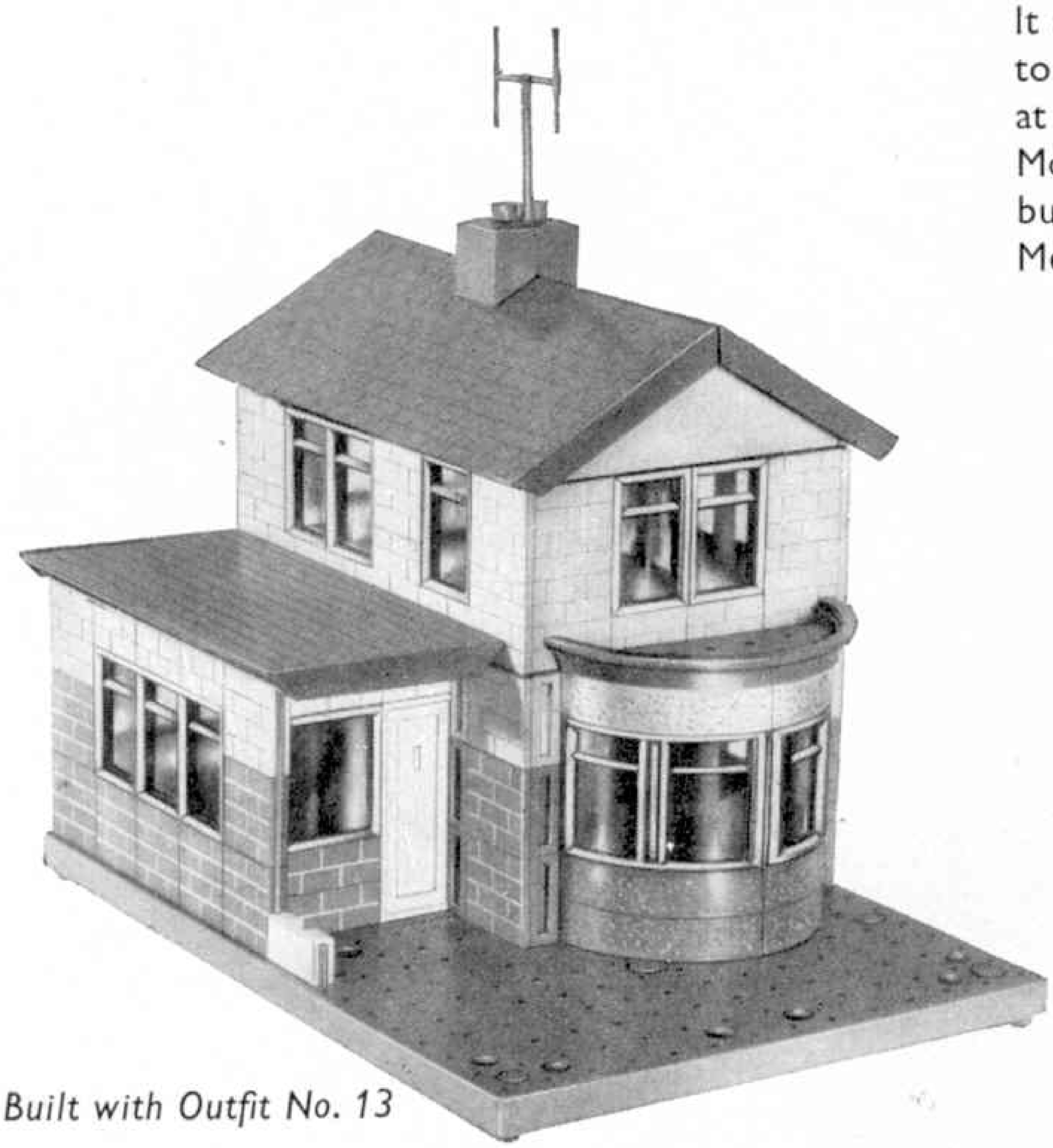


Outfit No. 13

It adds greatly to the fun and interest of the hobby to be able to purchase spare parts separately, a few at a time, to build these attractive larger models. Most Bayko dealers stock spare parts. Model builders unable to get spares should write to Meccano Limited.



Built with Outfit No. 13

Bayko Main Outfits	
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No. 12 Outfit	**18/6**
No. 13 Outfit	**26/–**
No. 14 Outfit	**39/6**

Bayko Accessory Outfits	
No. 11c Accessory Outfit	**8/3**
No. 12c Accessory Outfit	**10/9**
No. 13c Accessory Outfit	**18/6**

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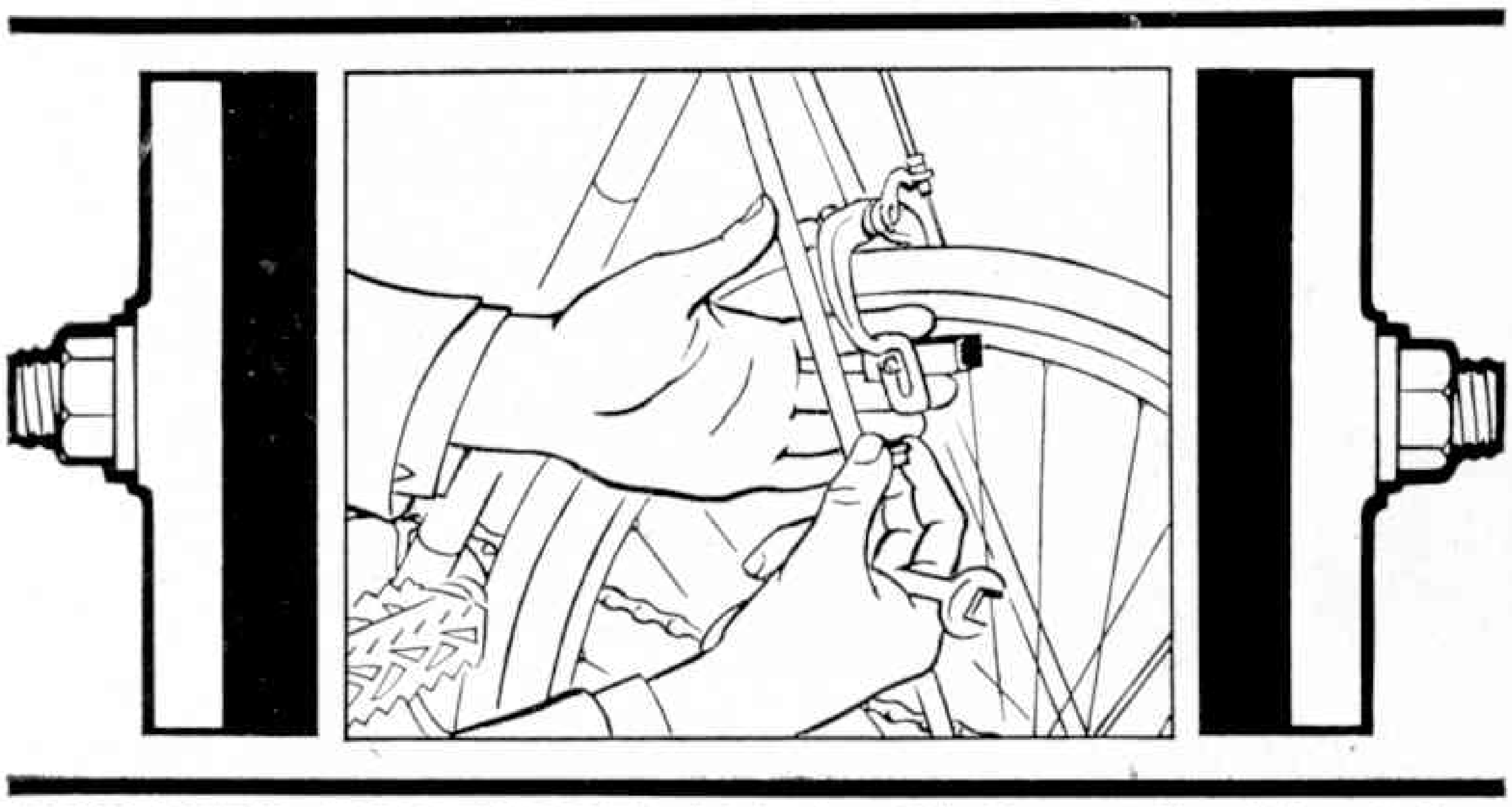

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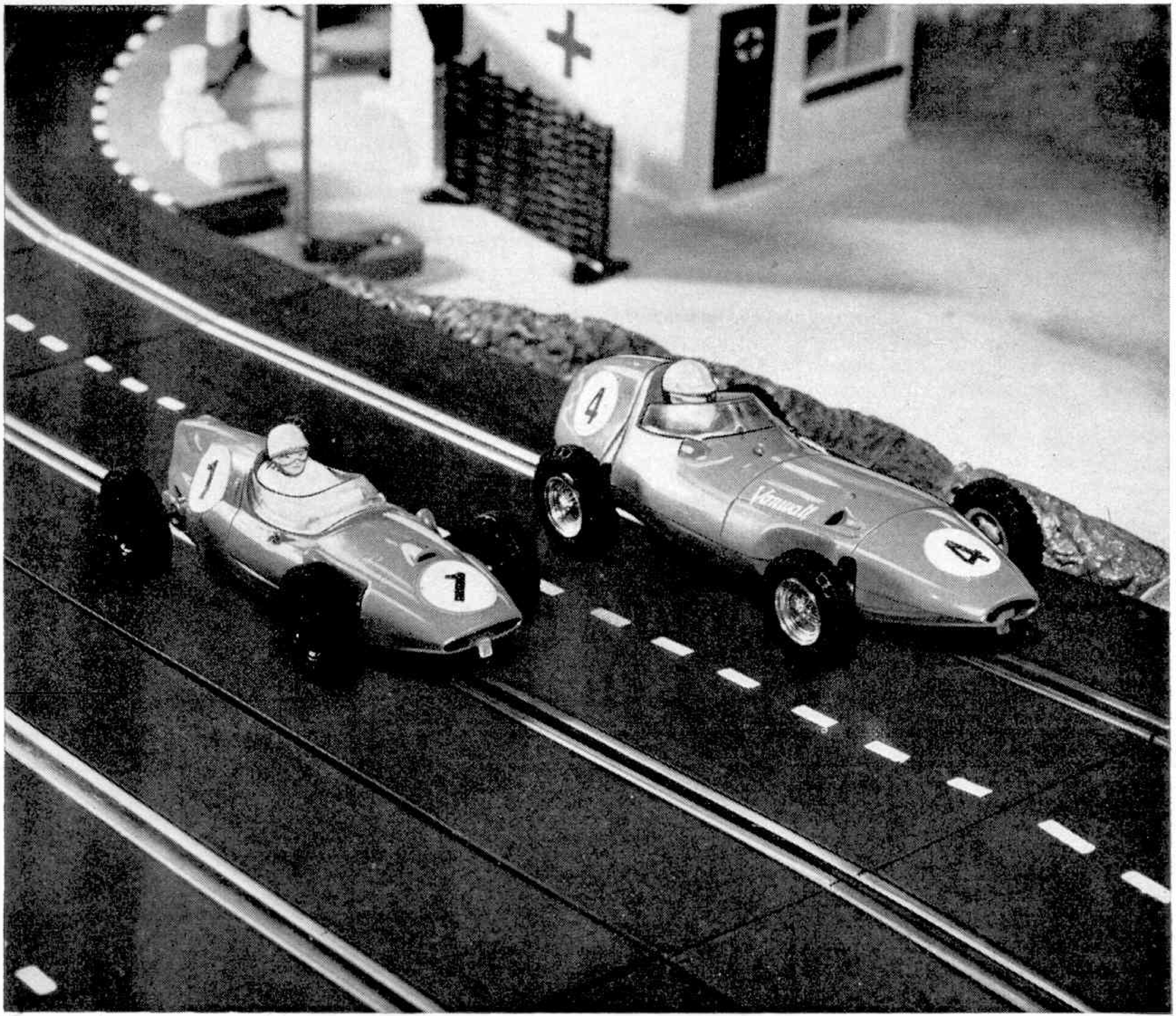

The two Scalextric cars shown above in a tight duel are the Grand Prix Vanwall and our latest release, the Cooper. Also available now is the B.R.M. Maintenance work in the pits is made easy on all cars by the quickly detachable body.

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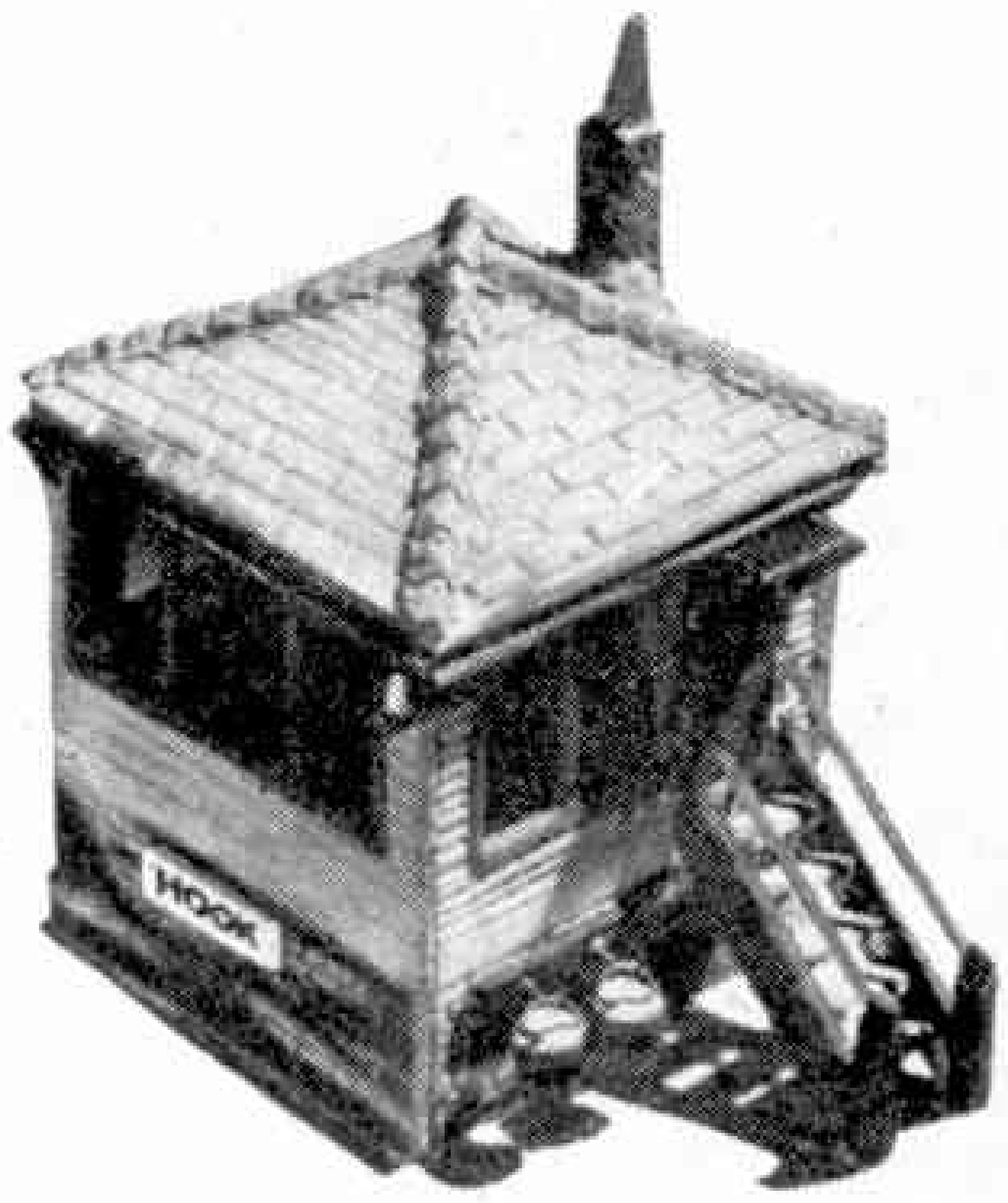

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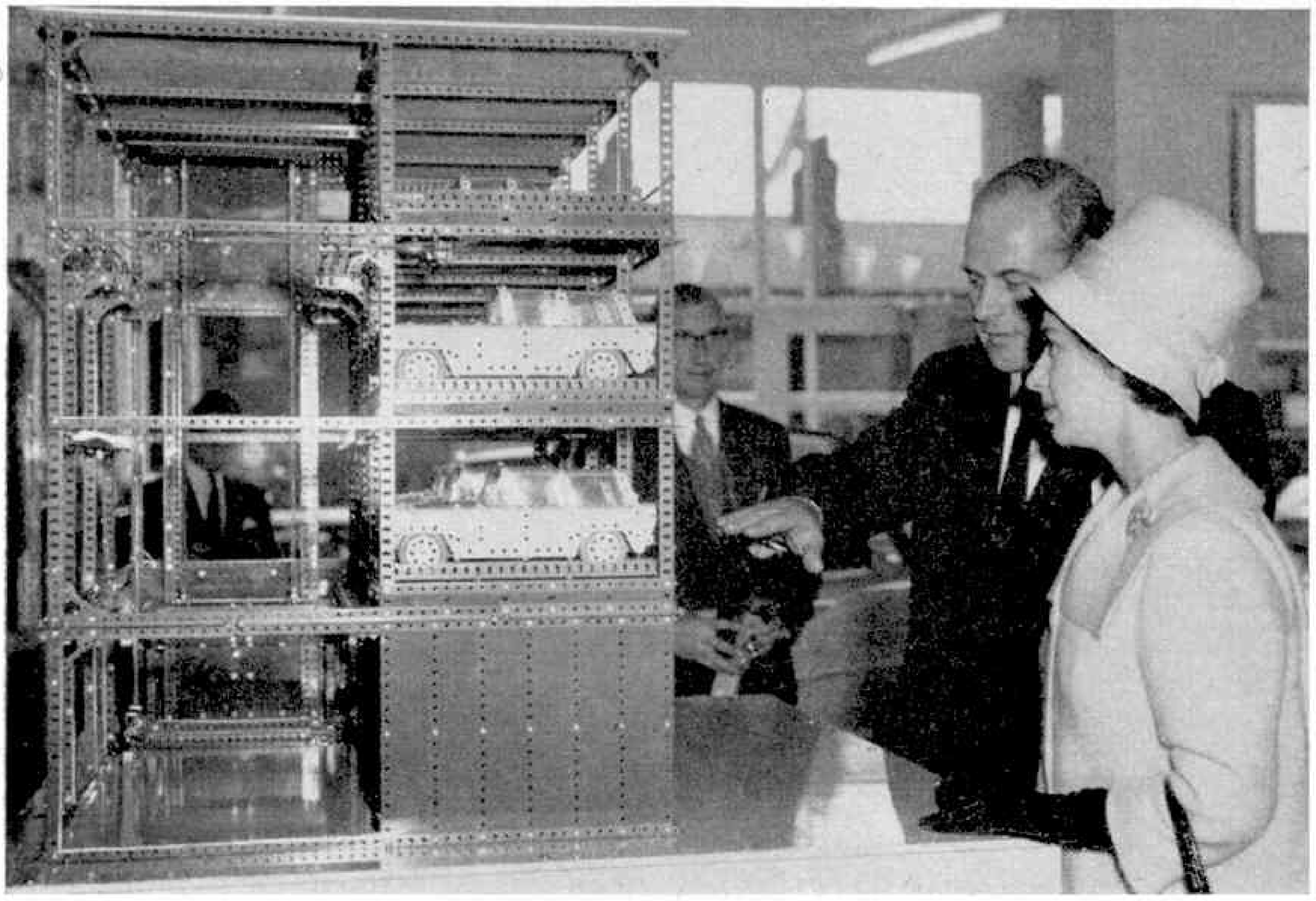

Royal View Of A Meccano Model

OUR picture this month shows Princess Margaret on a visit to Woolwich where, some weeks ago, she opened a fine new building—the Autostacker. This is a completely automatic garage accommodating 256 cars on eight floors, and the mechanics of it began with experiments involving the use of Meccano. How it came about is related inside this issue, where the building is described. To coincide with the opening ceremony Meccano Limited built a model of the garage with standard Meccano parts but using, as power for the lifts, Ring Field Motors similar to those used in Hornby-Dublo electric locomotives. In the picture above Princess Margaret is seen with the designer of the Autostacker (Mr. J. A. Stirling) studying the Meccano model, which was on view at the opening ceremony.

Another article in this month's *M.M.* which I am sure will appeal to readers is that on *Trams and Trains in the Isle of Man.* The Island's 3-foot gauge steam trains are quite famous, and are very popular with holidaymakers, but since our story was written it has been announced that diesel railcars are to be introduced into the Island.

Mr. A. M. Sheard, General Manager of the Isle of Man Railway Company, tells me that they will come into use this winter between Douglas and Port Erin. The service, he adds, will be operated by two Walker diesel railcars bought from the County Donegal Railway, which ceased to function on the last day of 1959. They are numbers 19 and 20 and were the most recent additions to the County Donegal's fleet.

Each railcar holds 41 passengers and their introduction into the Isle of Man system calls for an innovation. Since they cannot operate in reverse, they will have to be turned at the terminal stations, and this will necessitate the introduction of turntables, which have never previously been needed on the Isle of Man Railway.

THE EDITOR.

Next Month: POWER FROM NIAGARA

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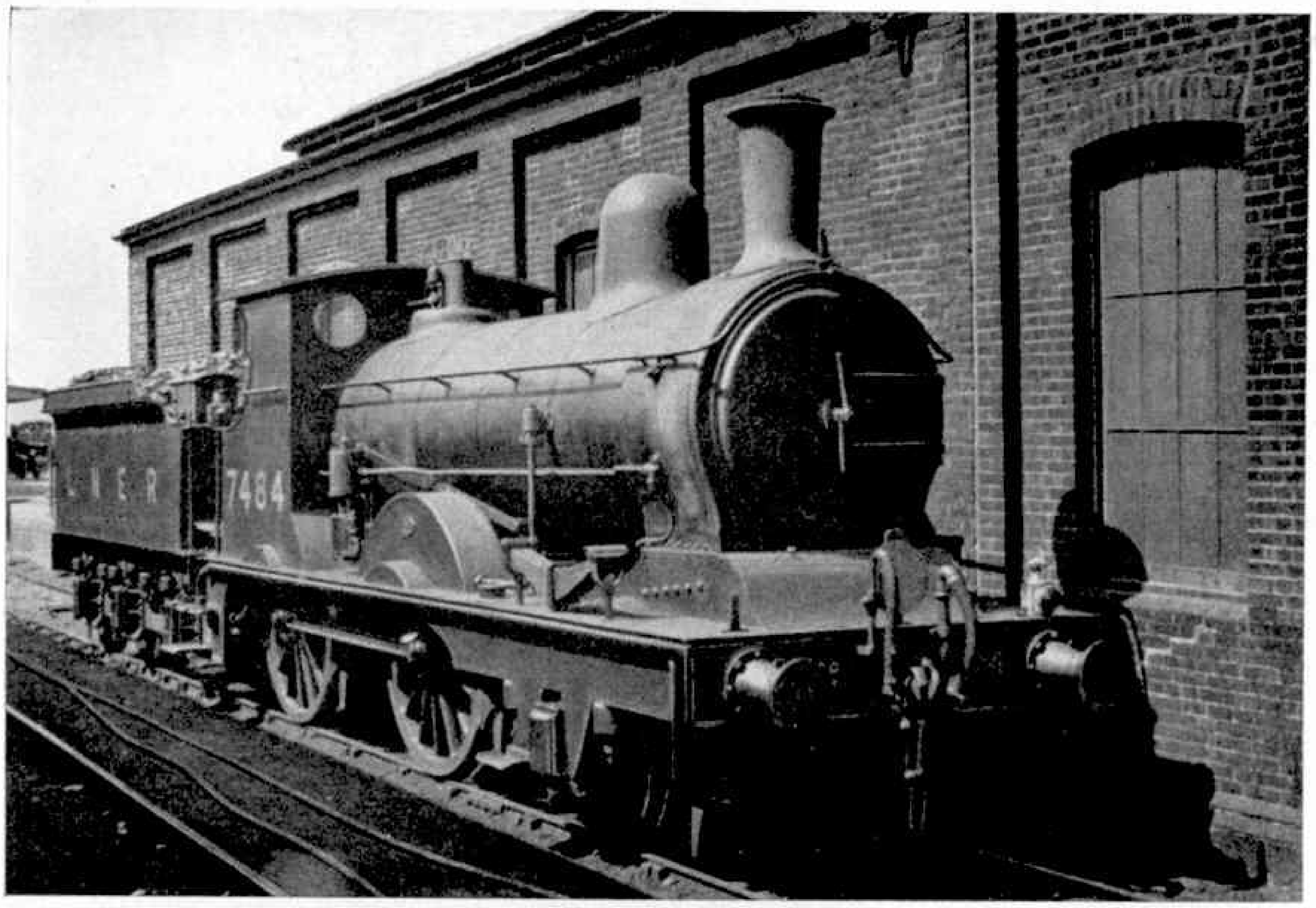
OUR FRONT COVER

The rather unusual picture that forms our front cover this month shows a Leyland "Beaver" fire engine chassis, carrying a 100-foot long escape, being loaded into the hold of the Ben Line cargo-passenger liner "Benvrackie," at London Docks.

The fire appliance was being shipped overseas for duty with the Hong Kong Fire Brigade and was loaded into the Benvrackie's hold by the ship's own 70-ton jumbo derrick. Built by David Haydon Ltd., of Birmingham, the appliance is 31 feet long, 8 feet wide and 11 feet high and is equipped with a fully-hydraulic Magirus turntable ladder. Its total weight is nearly 12 tons. The cover picture is reproduced by courtesy of Leyland Motors Ltd.



A G.E.R. mixed-traffic 2–4–0 with the type of chimney applied by the L.N.E.R. The engine was photographed in 1934 by J. P. Wilson.

North Eastern classified them, evidently entered upon a suicide pact, for they indulged in such a hearty head-on crash at Fakenham in 1931 that the remains of both were carted off for scrap metal.

At first under grouping the L.N.E.R. numbers were 7407 to 7506; in 1946, however, there was a re-numbering and the eighteen survivors became Nos. 2780–97, with the regional prefix of "6" after nationalisation. This led to a somewhat unhappy oversight when No. 62791 achieved fame by coming out of temporary retirement and taking part in a television thriller with a Victorian setting. The legend *British Railways* on its tender and the cabside number were carefully blotted out with grease to add to the period effect, but as the "E4" came towards the camera it was only too clear that the number on the smokebox door had been overlooked. Indeed, it looked as if it had been whitened up for the occasion, rather off-setting the footplate men's false beards and Billycock hats.

Being fitted with both Westinghouse air brake and the vacuum brake, some of the class found their way to unusual places, often on horse-box specials from Newmarket. Enginemen from other systems who had the chance to look them over and note their easy manipulation appraised them as "Really handy little fellows".

Change of job

A chosen few were sent north for regular service on the hard section of the old North Eastern which crosses the Pennines between Darlington and Penrith. For this job, so different from rustic branch running in East Anglia, the original cabs were replaced by a side-window style giving more shelter across the bleak northern fells.

The N.E. men who had them were already well served by the wonderful old Worsdell 0–6–0s which could sprint like a hare, but they liked the small 2–4–0s and said they wished the locomotives were "a wee bit younger". The problem of a strong engine with light axle-loading for that line was later solved by the modern light 2–6–0s of London Midland and Scottish, and B.R. design.

One of the E4s while numbered 7490, was provided with a pleasant job. She was fitted with a special seat near the front buffer-beam for the benefit of the judges of best lengths of track and of station gardens. On this light task she visited most sections of the L.N.E.R., still displaying an original Stratford "stove-pipe".

Like eager terriers

The forward set of the dome and general appearance of the "E4s" somehow gave the impression of eager little terriers straining at the leash. In motion, their smallish wheels gave a great impression of speed, which was enhanced by the sight of their big crossheads dashing to and fro in a 1 in 8 inclination between the frames, and by the movement of their prominent scarlet coupling rods of unusual length.

Perhaps their finest points to keep in mind were the brass collar linking boiler and smoke-box, and a fascinating bright copper cleating to the outside axle-box of the leading small wheels. These we shall doubtless admire once again on No. 490, but the engine will be cold and dead, and very different from its condition of warmth and oily fragrance during its working days in the Suffolk sunshine. The preserved engine, we are informed, will be a non-working relic and will be unable to emulate *City of Truro*.

BOOK REVIEWS

THE GRESLEY STORY

In **Nigel Gresley, Locomotive Engineer,** by F. A. S. Brown (Ian Allan, 35/–) the author presents a comprehensive biography of an outstanding locomotive engineer, the creator of the world's fastest steam locomotive and the creator of many innovations in locomotive, carriage and wagon practice during a long period of service with the former G.N.R. and L.N.E.R. systems. Gresley was a big man, who believed in big engines, and on the Great Northern he showed that the Pacific could be a workable proposition on a British Railway. Subsequently, on the L.N.E.R., his Pacifics became the standard express motive power on main line routes. Even today, twenty years after his death, the Gresley Pacifics and many others of his locomotives still play an important part in traffic working.

The book is a most readable account of the life work of an eminent railwayman, the preparation of which has clearly been an enjoyable task for the author. Although necessarily dealing with matters of a technical nature, the book is not written in a technical manner and it avoids masses of figures. It will be welcomed by enthusiasts and it can be read with pleasure by those who merely have a leaning towards railway subjects.

In the preparation of the book much official data has been made available and there are many anecdotes concerning the wide range of matters with which Gresley concerned himself. Many things are dealt with here in print for the first time, while personal observations on the part of the author also help the story. The book is very well illustrated and, in addition to a number of diagrams of considerable interest, including sectional views of two of the more remarkable Gresley locomotives, there is a most useful index.

* * * *

NEW abc LOCOMOTIVE BOOKS

Parts 1 and 2 (combined)	**W.R. and S.R.**
Part 3	**L.M.R. and Sc.R.**
Part 4	**E., N.E. and Sc.R.**

Each of the three Ian Allan abc Locomotive books listed above costs 2/6d. and together they constitute the summer edition of these popular publications. While they follow the usual abc plan of presenting in classified regional order B.R. locomotive numbers and names, these Parts deal with steam locomotives only, as diesel and electric locomotives, multiple-unit diesels and multiple-unit electrics are being covered in separate Parts.

In addition to this change, a welcome innovation is the inclusion of some coloured illustrations, together with some views of engines of the past. Each of the books named above includes a section on B.R. Standard locomotives. Dimensions, motive power depot codes and similar details also are included.

THE AUTOSTACKER

Parking Cars The Modern Way

Princess Sees Meccano Model Of New Garage

At the opening of the Autostacker, Princess Margaret was accompanied by her husband Mr. Anthony Armstrong-Jones. They are seen here taking deep interest in the Meccano model of the Autostacker. Explaining a point to them is the designer of the building, Mr. J. A. Stirling.

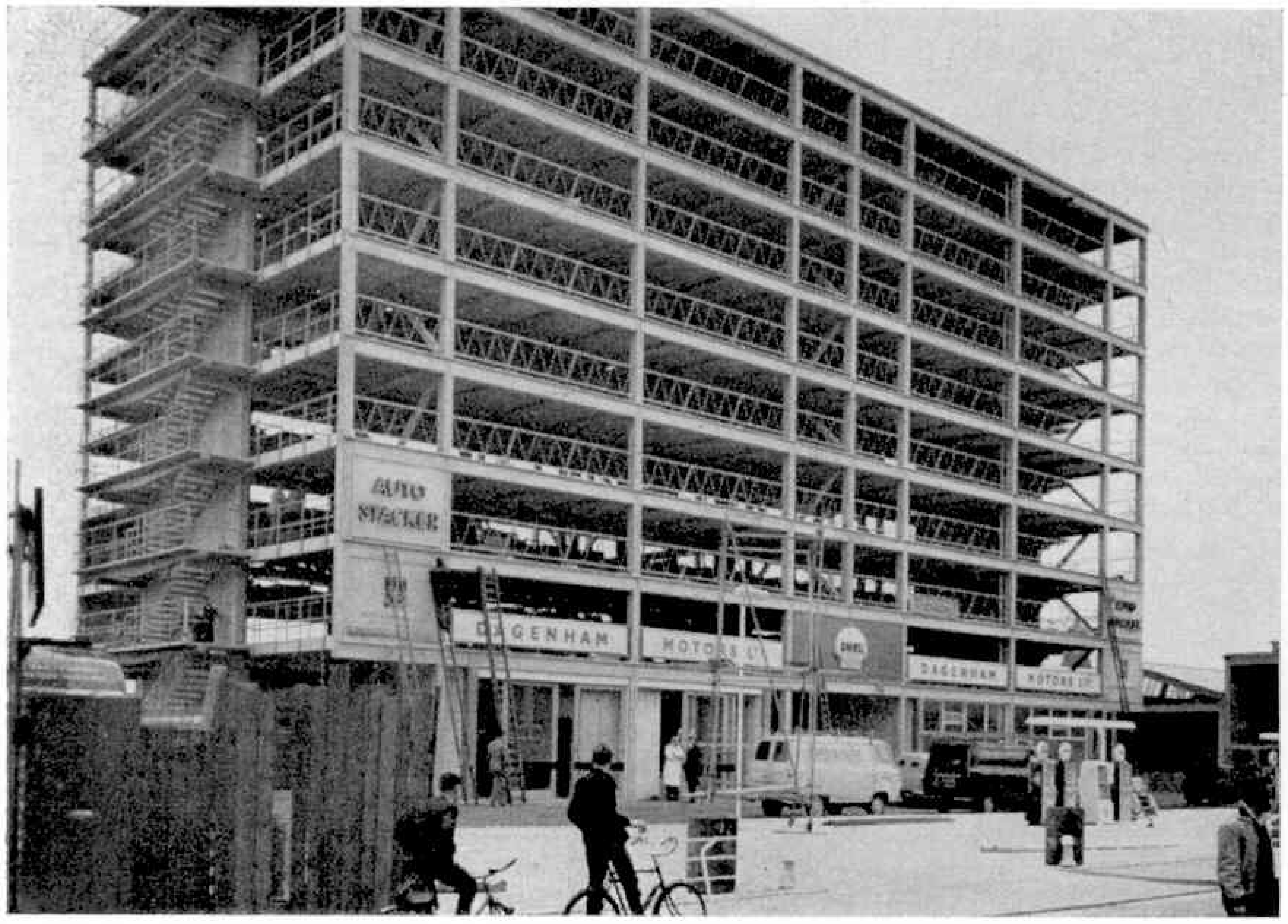
WHEN, on May 11, Princess Margaret opened a fine new garage in Beresford Street, Woolwich, London, she was visiting a building, absolutely novel in conception and design, which has a strong link with Meccano. For Mr. J. A. Stirling, O.B.E., M.I.C.E., the designer of the building—the first automatic car park to be built for a public authority in the United Kingdom—made his original experiments in the model stage with Meccano. Quite naturally, Meccano Limited celebrated the opening of the Autostacker by building a model of this fine new garage, electrically operated, and this attracted Royal attention.

The Autostacker is, in fact, a multi-storey car park with space for 256 vehicles and was built for Woolwich Borough Council by Auto-Stackers Limited, of whom Mr. Stirling is a director. The supervisory equipment, which makes the building automatic, was designed, manufactured and installed by the Instrumentation and Control Division of Standard Telephones and Cables Limited.

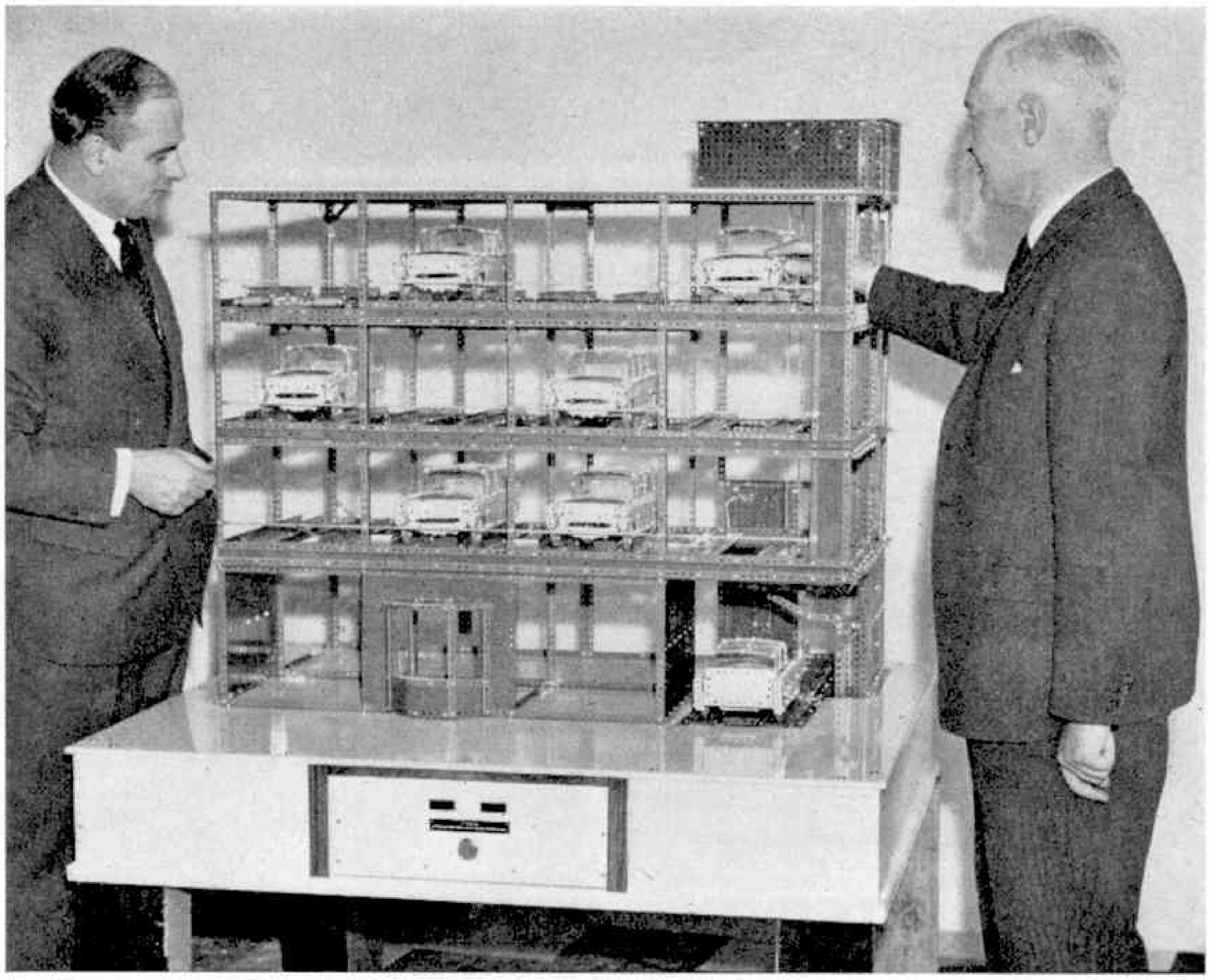
In this fine new garage the cars are stacked, one deep, on either side of a gallery on each of eight floors. The ground floor of the structure accommodates workshops, showroom and the entrances to the four lifts which actually park the cars.

Parking is fully automatic and is carried out entirely by remote control from a kiosk at ground level. The motorist is directed by an arrangement of traffic lights to drive on to the required powered conveyor in front of one of the four lifts. If he wishes, he can then lock the car.

The lift then takes the car to the floor selected by the controller in the kiosk, and the powered transporter that forms the lift platform moves out from the lift structure and stops opposite the preselected parking slot. Powered rollers under the wheels of the car then move it into the parking slot itself. The transporter then returns to the lift and, in the



This view of the Woolwich Autostacker shows the immense amount of room available for handling cars.



In this picture Mr. Stirling (left) is seen explaining the Meccano model of the Autostacker garage to Mr. T. J. Finley, Director and General Manager of Dagenham Motors Ltd., Woolwich.

absence of an instruction to collect a car on the way down, the lift returns to the ground floor.

When the motorist leaves he is given a Yale-type key in return for the parking fee. On returning to collect the car, he surrenders the key which, when inserted in the STC control equipment, automatically starts the "collect" cycle.

A complete parking or collect cycle takes only 50 seconds on average.

The STC remote control equipment consists of two equipment cubicles in the attendant's kiosk, each containing a mimic diagram array of keys, relays and lamps. Each key corresponds to a car parking slot. The lamps show the operating position on each of the four transporters. By turning a key to the left, the "deposit" cycle is initiated; by turning it to the right, the "collect" cycle is initiated.

An important feature of the Autostacker system is that there is no electrical wiring to the individual car parking slots, thus reducing the initial cost and risk of fire. The transporter engages mechanically with the individual slot mechanism to deposit or remove a car.

The control equipment is so arranged that the attendant, having once started the deposit or collect cycle going, can leave the automatic equipment to do the rest, thus enabling him to turn his attention to another customer.

A Toy Proved a Theory For Him

Mr. J. A. Stirling, who designed the Autostacker, gained part of his civil engineering experience during the construction of the Mersey Tunnel. On the day the Autostacker was opened the following article, which gives interesting details of his career, appeared in "The Evening News and Star". It is reprinted here by courtesy of the Editor of that newspaper.

FIDDLING about with a Meccano Set really started the Autostacker. And the man who chose a mechanical toy to prove a theory of intricate movement is Mr. J. A. Stirling, director of Auto-Stackers Ltd.

Mr. Stirling long ago had to decide "whether to be a theorist in a comfortable office or a practical engineer", as he put it.

Hard way

He chose to learn civil engineering the hard way. He worked on the site of many important contracts, including the building of the Mersey Tunnel, and at the age of 24 felt himself sufficiently experienced to start his own firm.

But as soon as the firm became established he was whisked up from the reserve of officers on the first day war was declared, and soon afterwards found himself in France with a captain's uniform, a company of sappers and the first caterpillar tractors to be issued to the Expeditionary Force.

Inside a year he stood, with the rest of the Army, with his back to the Channel and a victorious German Army savagely attacking the last remnants of what had been an Allied front.

He was in command of the perimeter guarding St. Malo, last evacuation port after even Dunkirk had been cleared.

"We raced back in the last transport we had and jumped on a boat, only to see the captain turn back in sight of the Isle of Wight. He apparently had not been informed of the barrage guarding the entrance on that side and had to make a complete circle of the island before being able to land!"

Returning to France on D-Day plus one he helped in "putting the wheels under the Army" and as a "half colonel" at Dieppe was one of only two or three Army officers to be given the command of a ship—a naval sweeper employed in clearing the harbour.

Experience

On the Rhine he was responsible for building the longest Bailey Bridge in the world, and the experience gained in that form of prefabricated construction stood him in good stead later when developing methods of quick construction for parking.

But it was some years later that he became interested in the problems of mechanical handling.

As general manager for the United Africa Company he had to deal with 50 varieties of timber and "the job of getting the bottom one out of the pile set me experimenting with a toy Meccano Set."

Back in England he saw cars piling up in the streets in much the same chaotic way as the timber had been stacked. It struck him that a car park for only 50 cars per office block would solve the problem, yet land was so dear that it could be done only by building upwards in a narrow space.

By button

That day, the idea of the Autostacker was born. Today sees the innovation of an ordinary motorist's idea of how the cars should be housed.

In Mr. Stirling's words, "It can be done anywhere with a site as small as 16 ft. by 50 ft. in any office, hotel or place of entertainment.

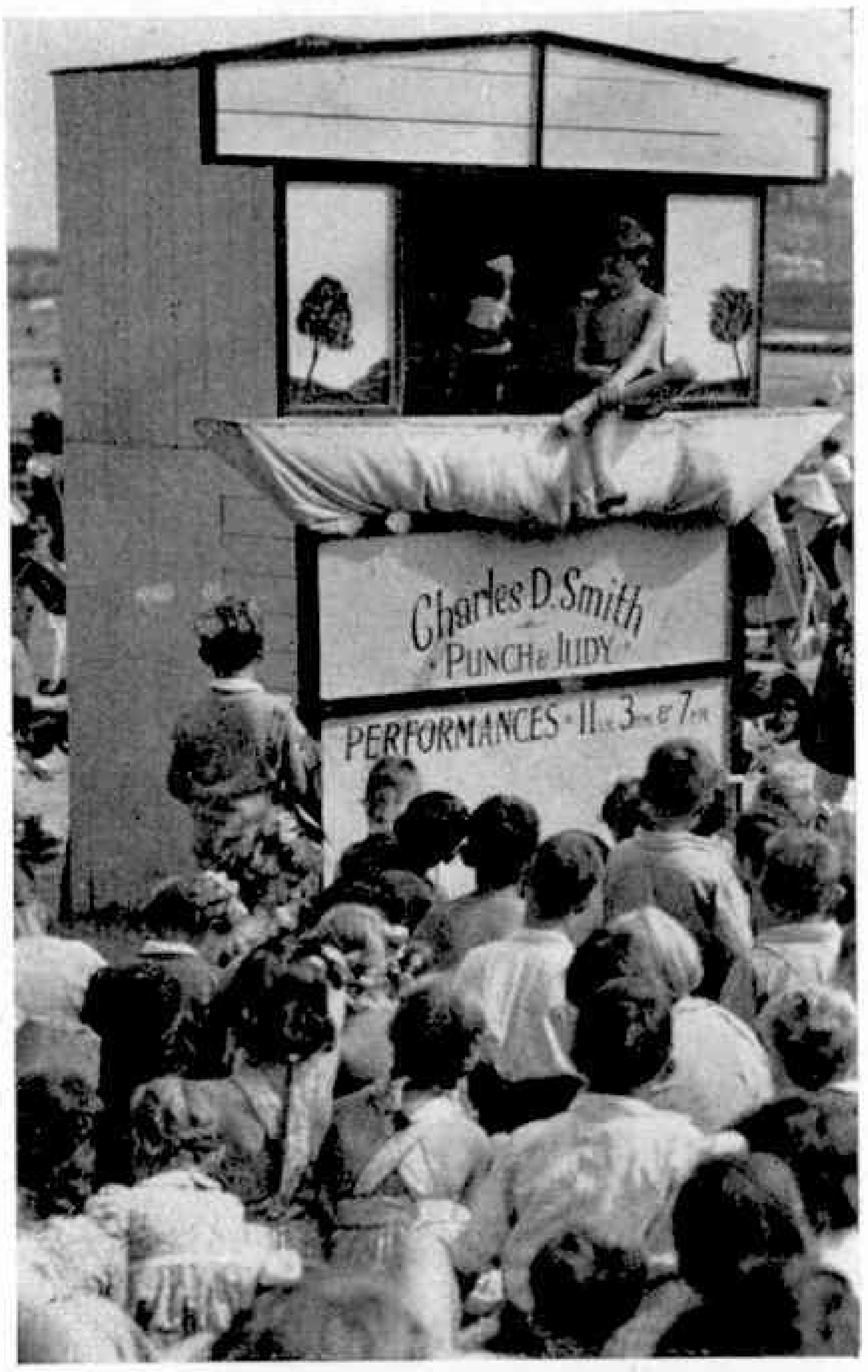
"I look forward to the day when the executive will press a button for his car as he does now for his secretary."

Happy Shows On Summer Beaches

The enjoyment of your seaside holiday depends partly on the open-air entertainments provided. Here are some facts about their history and development.

By

ARTHUR NETTLETON



FOR those who have to spend their lives in cities and towns far inland, a holiday by the sea is always a pleasant, and often an exhilarating, experience. Yet for many people much of that pleasure would vanish without the open-air entertainments—alfresco concert parties, Punch and Judy, carnival processions, and the rest, which are part of the seaside holiday.

Months before you start to think about packing your luggage, pleasure resorts are making plans to keep you entertained.

Between Easter and Whitsuntide this year, for instance, more than 200 concert parties were busy rehearsing the shows which they are now presenting to holiday crowds at about 140 seaside places in Britain.

Right round the coast, from Scarborough to Margate, Folkestone, Paignton, Llandudno, Blackpool and Morecambe, these troupers will be handing out laughter and gay spectacle.

Many famous comedians of stage and screen got their start in seaside concert parties, and it is thrilling to know that some of the entertainers who amuse you at the seaside this summer will be the star performers of tomorrow.

Being top of the bill on the beach may not bring rich rewards at the moment, but it can be an important step up the ladder to real stage success.

There were seashore entertainers in the very early days of holidaymaking. Our Victorian grandparents delighted to watch brown-faced, white-lipped "nigger" minstrels, straw-hatted banjoists, and red-necked comic acrobats who performed on makeshift stages in the open.

Things have changed since then, and nowadays many resorts engage first-rank performers for their shows. Fine stages, with electric lighting and special fittings, are provided, although the holidaymakers still sit in the open.

Presenting such entertainment is really big business—with a capital B. More and more resorts have abandoned the one-time general custom of hiring out the "stands" to private companies who engage troupes for the season, pay the corporation a fee for the privilege, and collect the takings.

Instead, the resort authorities engage concert parties themselves, and the ticket money from holidaymakers helps the local rates, quite often leaving a substantial profit, even after the entertainers have been paid. It is still a profitable enterprise run that way, although the weekly payroll for a concert party may exceed £200 and the corporation also lose the fee they would otherwise get for the "stand".

The North of England is the true home of the seaside concert party. The highest salaries in this branch of the entertainment world are paid in Lancashire and the Isle of Man, and it is the ambition of

For children—and for grown-ups—the age-old art of the Punch and Judy show (top picture) still has a great fascination. Right: Concert parties have a big appeal at many resorts. This picture shows the Marina Open-Air Theatre at Great Yarmouth, and is published by courtesy of the town's Publicity Department.

every artist to get an engagement there. Blackpool and Douglas, particularly, are great centres for the making of artists.

"Stands" for individual entertainers, such as Punch and Judy showmen, escapologists, ventriloquists, and conjurers can be rented at many resorts. In fact, some of these stands bring in considerable sums to seaside authorities, rents in a number of cases being as high as £100 for the season—payable in advance!

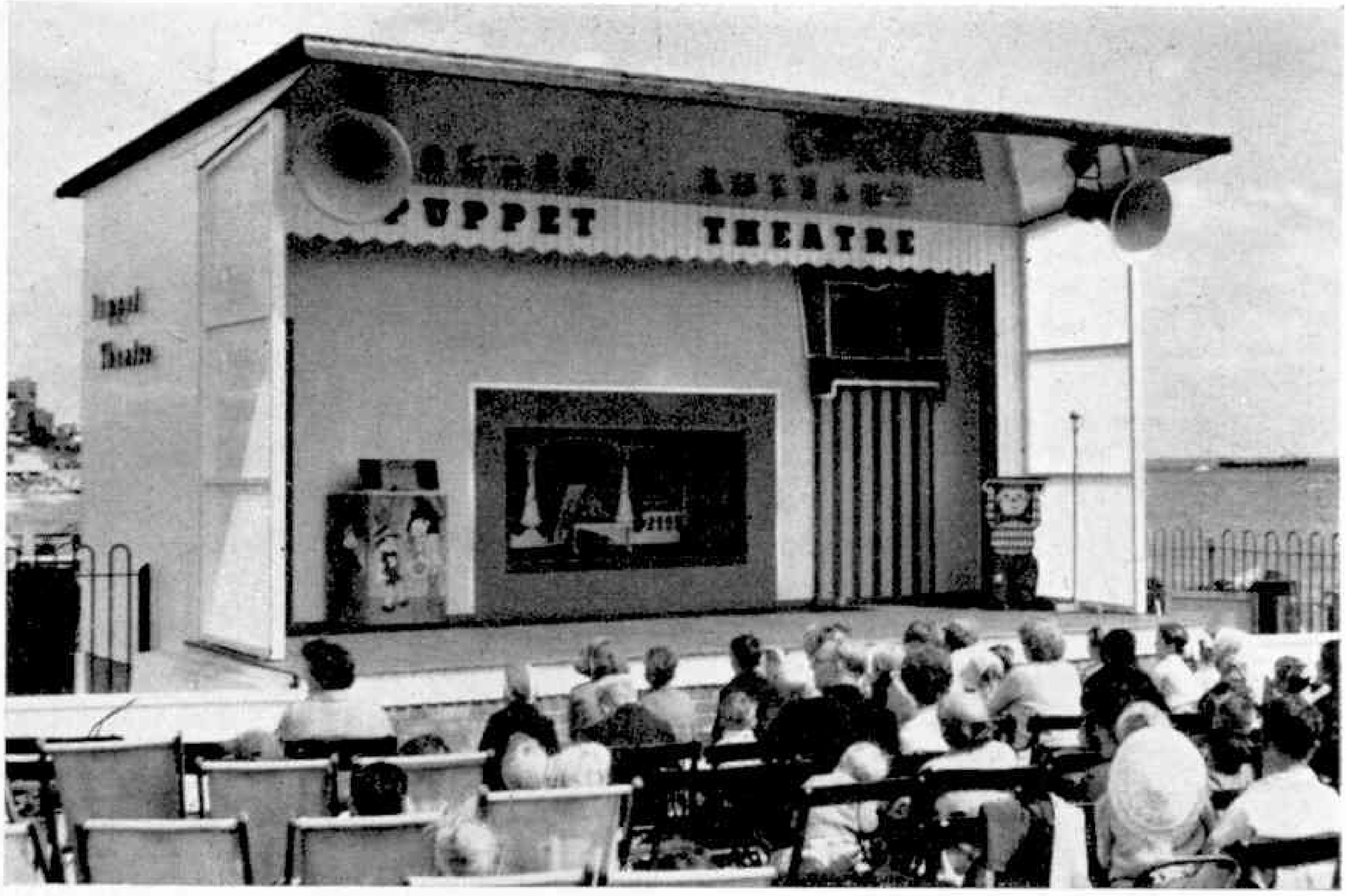
That quarrelsome pair Punch and Judy remain firm favourites with holidaymakers today, in spite of competition from other forms of outdoor entertainment beside the sea. And as beach fun and frolics go, Punch and his wife must be the oldest entertainers of all. Nowadays, at least 100 showmen still make a good living at the resorts by entertaining young folk—and many old ones—with this kind of puppet show. Its only serious rival is the string puppet entertainment.

Punch is such an ancient rascal that his origin is now uncertain. Some historians of puppetry claim to have traced him back to a mime presented in Roman days. Certainly he was known in Italy 400 years ago, although he was not exactly the character we know today.

Originally he was an actor, not a puppet, wearing a costume rather like that of a pierrot, and he was not known as Punch but as Pulcinella. But his mischievous antics usually stole the show, and he was so popular that puppet showmen copied this human figure.

Thus Punch was born. In due course he had to have a wife, so Judy was invented as his companion. The white-faced clown—usually called Joey—who teases Punch into such a temper, is an addition from Victorian times.

This familiar glove-puppet show was first presented in its present form in England towards the end of the eighteenth century, and the entertainment which still delights youngsters on the summer beaches has changed surprisingly little since then.



Puppet theatres like this one at Southend are comparative newcomers among open-air entertainments for the seaside holidaymaker. Picture: Southend Publicity Department.

Symbolising the holiday spirit and presenting colourful spectacles are decorated floats, such as the one shown here, in seaside carnival parades. This picture and that of the Punch and Judy show on the preceding page are published by courtesy of Margate Publicity Department.

Earlier, in the time of Charles the Second, the show was not a separate one presented in a tall canvas-covered box theatre, but part of a more general puppet entertainment. At that period, Punch was mainly a stock character who kept interrupting the other puppets.

When you laugh at his wicked tricks, you are, in fact, doing what the Merry Monarch did, although he watched Punch and Judy in the royal palaces and not on the sands. Other early shows of this kind were presented before fashionable gatherings at Covent Garden.

In Queen Anne's reign the Punch and Judy showmen were allowed to set up permanent booths at markets all over England, and some of these old puppet theatres in the open-air existed in London, and elsewhere, until a few years ago. Indeed, Liverpool still boasts a puppet stall. For many years Professor Richard Codman's Punch and Judy stall occupied an important position—right in the heart of the city—facing Lime Street Station. Now it has been moved to an equally imposing place on the plateau flanking St. George's Hall.

Today, the beach is the favourite pitch of Punch and Judy showmen. One change which the show has undergone is a curtailment of the play. The evergreen melodrama involving Punch, Judy, dog Toby, policeman, baby, hangman, and ghost is thought to parody a medieval mystery play, and in its complete form it would last well over two hours.

What about other seaside enjoyments—the carnival procession with its grotesque figures and floral carriages, for example? Where did this particular type of holiday entertainment begin?

It is claimed that Morecambe, on the Lancashire coast, was one of the first places—if not the very first—in Britain to organise the modern kind of seaside carnival. But this sort of function in general is one of the oldest in Europe. It had its roots in the heathen festivals of the ancients, but with the spread of Christianity it was given religious significance.

The presentation of colourful carnivals at holiday time, however, is appropriate enough, for in bygone days they were regarded as opportunities (*Cont. on p. 266*)

Breaking A Space Traffic Jam

IT goes without saying that there is an awful lot of room in space, and it is unlikely that the Moon, Venus and Mars probes now being sent up will ever constitute a hazard to space travellers. But artificial satellites of the Earth are a different matter altogether.

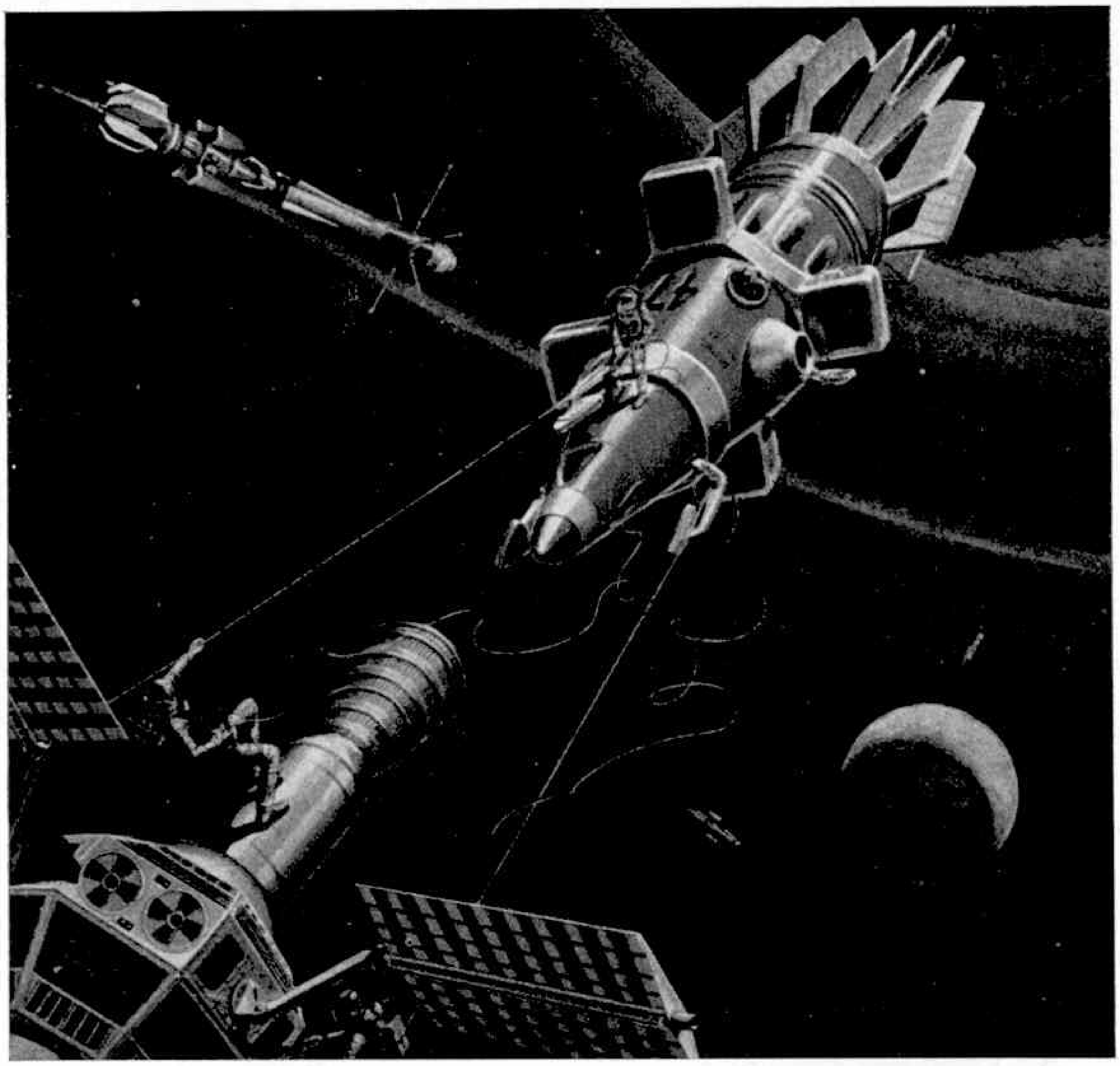
Within the next year or two there will be several hundred objects in orbit at any one time—the satellites themselves, final stage rockets and odd bits and pieces of jettisoned equipment. These could certainly be potentially dangerous to spaceships leaving and returning to the Earth.

It has already been recognised that solar-powered, transistorised transmitters could continue to function indefinitely and so become a nuisance when their useful life had come to an end. The transmitters in modern satellites can be switched on and off as required from ground stations.

But the physical lifetime of a satellite is determined by its distance from the Earth, and more and more satellites in the near future will be put into orbits giving lives of several hundred years. As space traffic increases these derelict hulks will have to be captured and brought out of orbit in order to keep the space lines clear.

To do this, a special towboat will approach the radar-located satellite and match the derelict's orbital speed as it moves into orbit behind it. Lines will then be attached by crewmen to the satellite, the towboat hauled forward and the nose-cone clamped into the satellite's rocket nozzle. The towboat's engines will then be switched to reverse and the two vehicles will gradually lose momentum and nose into a spiral path towards the Earth.

When a safe point is reached, the towboat will release the satellite which will be consumed by friction as it plunges through the atmosphere.



An ion-drive towboat is here seen nosing into a derelict satellite. In the background, a satellite is being pushed into a spiral orbit towards the Earth. (Illustration by courtesy of American Bosch Arma and Frank Tinsley.)

Space Notes

BY

J. HUMPHRIES, B.SC. (ENG.), A.M.I.MECH.E., A.F.R.AE.S.

RETURN TO THE MOON, PLEASE!

Now that space-travel is getting beyond the curiosity stage, some scientists are taking a look at the probable costs of various journeys in the future. There are many factors to be taken into account in costing space trips, the most important being the type of propulsion used. Basically the journey to the Moon, for example, can be split up into three parts; getting from the Earth's surface into an Earth satellite orbit; the trip from the Earth satellite orbit to a Moon satellite orbit; and finally the landing on the Moon. Sometimes a direct journey from Earth to Moon orbit is proposed, but this is not generally considered to be very economic.

For the first part of the trip a high thrust is needed and, in fact, this part of the journey is the most critical. At the moment the only means of propulsion available for all parts of the journey are chemical rockets. For space vessels using chemical rockets it can be said that to land safely one pound of payload on the Moon costs five times as much as putting one pound into an Earth satellite orbit.

At present, this would make the cost of safely landing a pound on the Moon about £3,000. In the next five years this figure could well be reduced by a factor of ten and ultimately brought down perhaps to £50 per pound.

This would certainly enable heavy satellites with automatic exploring tanks fitted with TV transmitters to be sent to the Moon at a relatively low cost.

But the real interest in space flight is to get a man there, and here we run into difficulties as he will undoubtedly want to come back again!

Fortunately, the return journey is a lot easier than the outward one. Lifting off from the airless Moon will require the same energy as landing, as will the return to the vicinity of the Earth. But landing will be much easier as the atmosphere can be used for braking. Even so, for each pound returned to Earth perhaps ten will have to be taken to the Moon, which would make the cheapest round trip for a man with his food and equipment (say 1,000 lb.) about £500,000. No, even with the vast improvements of the next decade it is difficult to visualise the travel agents offering a fortnight in Luna City, all-inclusive.

GUIDING THE SCOUT SATELLITE

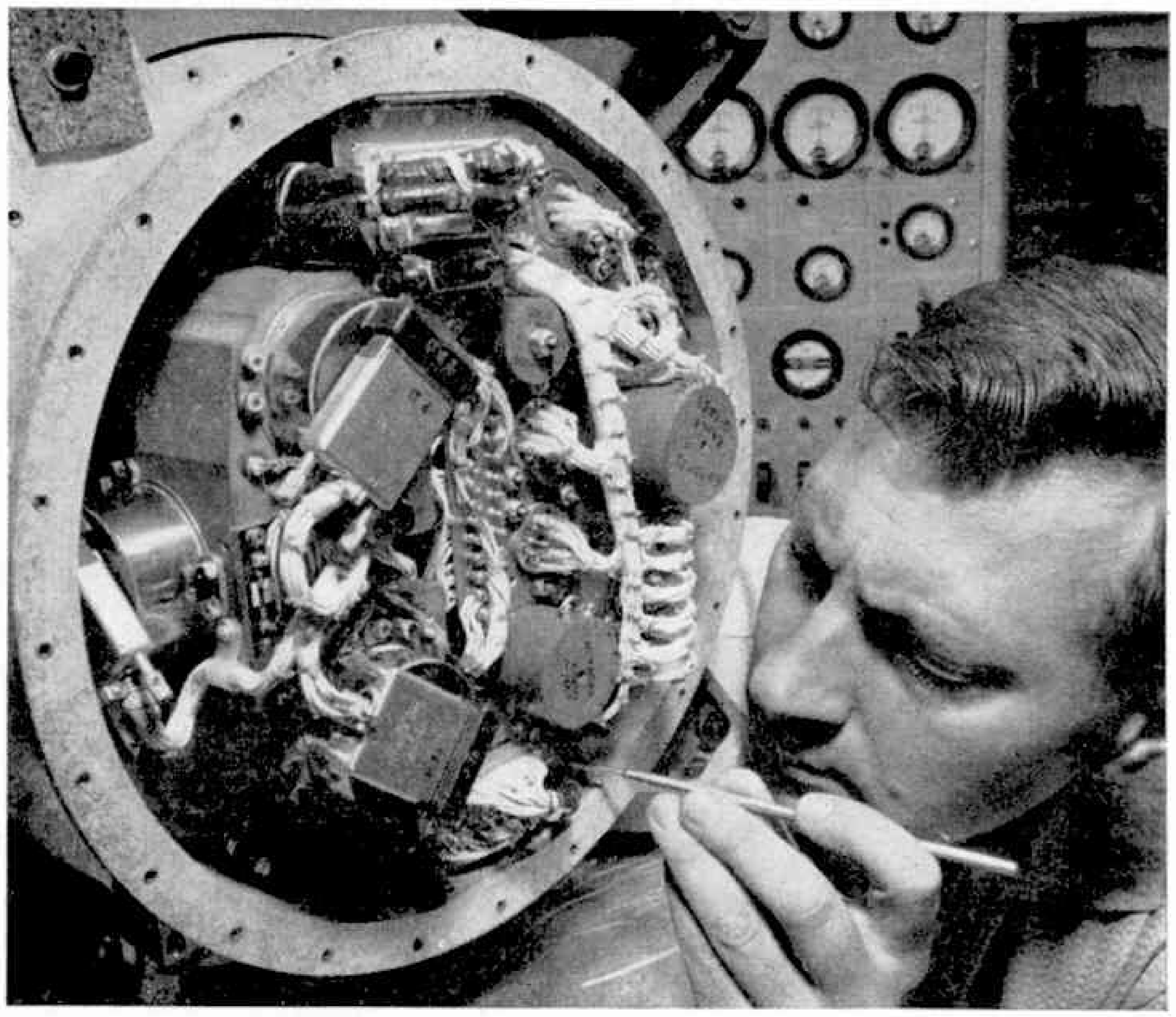
The first British space instruments to go into orbit will be placed there by an American Scout vehicle. This successful and comparatively cheap vehicle consists of four stages each propelled by a solid rocket motor. In order to keep the cost down, all components are made as simple as possible. Even the guidance system, designed and built by Minneapolis-Honeywell, is far simpler than those used in the bigger and more sophisticated orbital rockets. Each stage has its own set of controls, and they work as follows:

First stage: A servo system controls the vehicle in response to signals from the guidance system in the third stage. This control is accomplished by means of jet vanes located behind the nozzle, and by small fins which become effective toward the end of first stage operation. A programmer in the third stage controls first stage separation, coast time and second stage ignition.

Second stage: The reference system and programmer in the third stage send command signals to the second stage to control its attitude, separation from third stage and third stage ignition. Second stage attitude control is accomplished by means of an eight-nozzle hydrogen peroxide reaction jet system.

Third stage: Attitude is again controlled by hydrogen peroxide reaction jets. The main guidance and associated electronic equipment is contained in this stage. This inertial reference system and programmer can be altered to provide orbits of varying altitudes and ellipticity, or can be programmed for various types of high altitude probe missions.

Fourth stage: This stage is simply rotated by spin rockets to 160 r.p.m. prior to separation from the third stage and ignition.



This picture of a Scout guidance system being checked during manufacture is by courtesy of Minneapolis-Honeywell.

ORBITAL FUELLING STATION

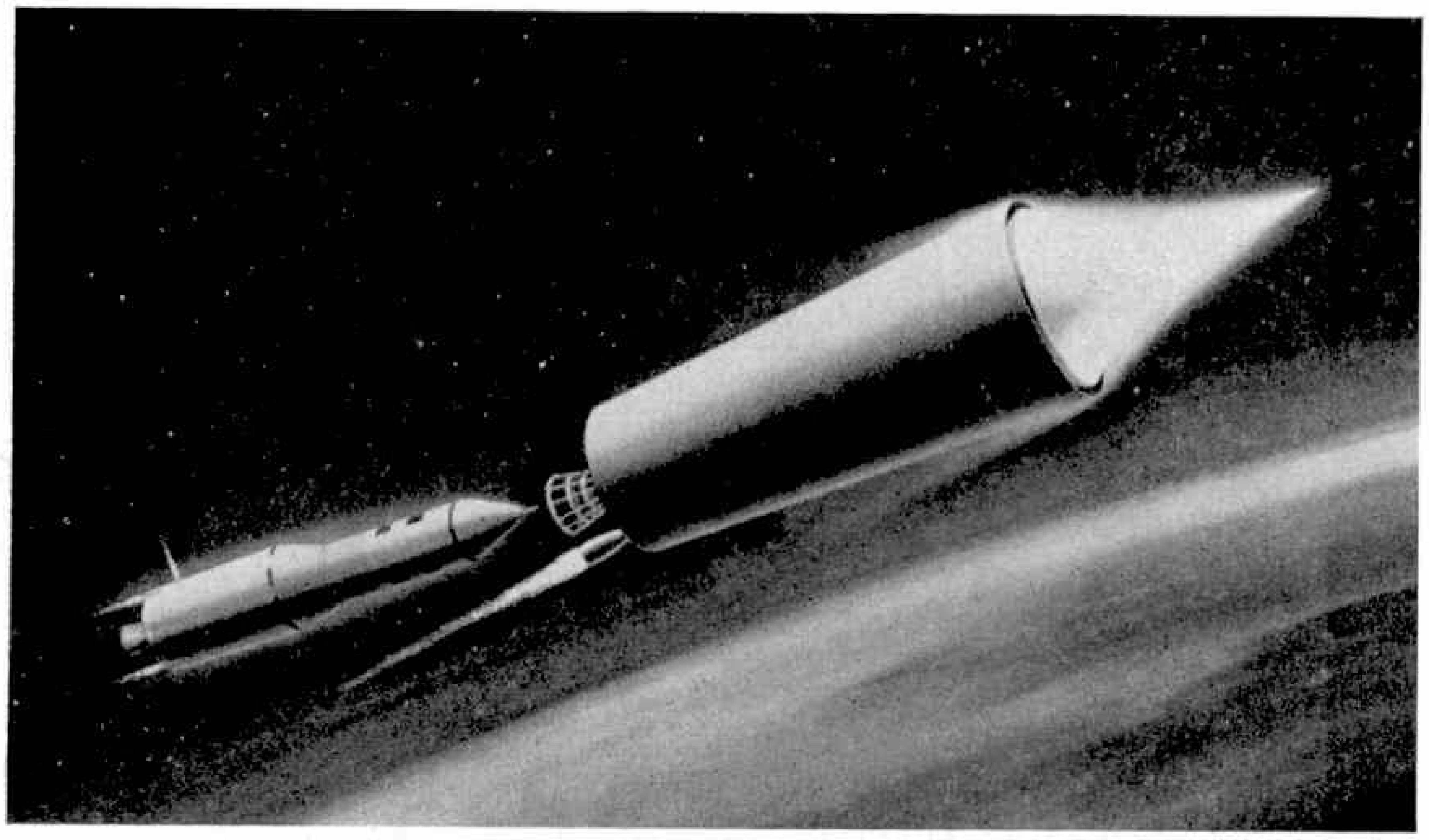
An orbiting fuelling station for spacecraft, increasing their range or payload by as much as ten times, could be ready for long-distance manned space expeditions by 1967, according to Northrop Corporation's Norair Division.

The system, called PROFAC (Propulsive Fluid Accumulator) would be manned and powered by ramjet. It would orbit in extremely thin atmosphere where it would accumulate air, liquify it and store it. Outbound space-craft would receive the air from the satellite and use it for propulsion in nuclear or chemical rockets.

At present, 300 lb. of booster rocket is required for each pound of payload to be placed on the Moon. Using the PROFAC technique this could be cut to 30 pounds. To remain in orbit at an altitude where it would be able to collect air, the satellite fuelling station would utilise a small portion of the air it accumulated to power its atomic ramjet engine and skip in and out of the upper atmosphere.

The PROFAC satellite would be about 120 feet long and would weigh between 76,000 and 125,000 lb. It could collect, liquify and store up to 500,000 lb. of air.

PROFAC (in foreground) getting ready to transfer liquid air to an outbound space-ship. (Northrop International photograph.)



COLOURFUL CONTINENTAL HANDBOOK

The R.A.C.'s Continental Handbook for 1961 contains, besides a wealth of general information concerning foreign travel, details of a new scheme to assist tourists in selecting reliable hotel accommodation.

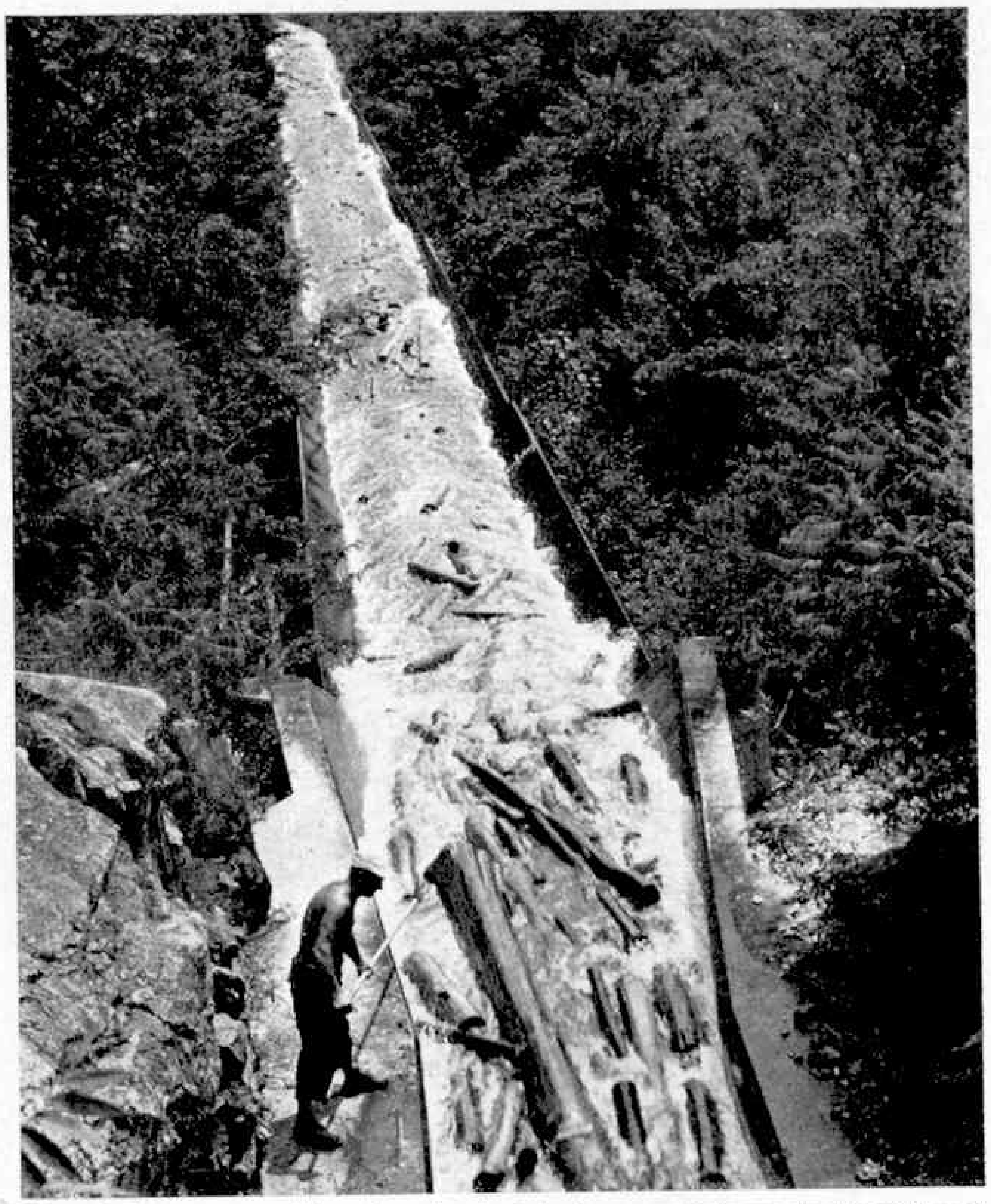
A team of R.A.C. hotel inspectors visited hundreds of European holiday resorts and, as a result of their findings, about 350 hotels have been designated as R.A.C.-Appointed. These hotels are indicated in the Handbook by a special symbol, and all the 5,000 hotels and garages listed are in new clear type, the details concerning them reading down the pages, not across, as in previous editions.

Within the bright, contemporary covers of the 1961 Handbook are 640 pages packed with useful information on the latest touring regulations, currency, fuel prices, documents, road-signs and places of interest. In addition, there is a 32-page, three-colour atlas showing all major roads with inter-town mileages. The price is 6s. 6d. to R.A.C. members and 10s. 6d. to non-members, and the Handbook is available from any R.A.C. office.

In This Article J. D. Woodward Tells "M.M." Readers

HOW PAPER IS PRODUCED

HOW does it feel to be reading a tree? The paper on which this article is printed was once part of a tall fir tree in the vast forests of Canada or Scandinavia. Like so many of the familiar things of everyday life, paper is something we take very much for granted. It is a material with a thousand and one uses. Various types of paper are employed in wrapping, packing, protecting, and decorating and for containers. In addition, there is the all-important paper required for books, magazines, newspapers and letters. Paper, as a medium for printing, has made possible the greatest spread of knowledge, ideas and information the world has ever known. Our civilisation could never have developed without it.



The pulp logs come tumbling along in a turbulent race on their way to the mill pond from which point they will be moved on for processing. This picture, and that at the foot of the following page, are by courtesy of Malak, Ottawa.

Ever since man first learned to convey his ideas by writing, he has needed some material on which to record them. The earliest scribblings were on stone, slate, or clay. More than 5,000 years ago the Egyptians wrote on crude sheets, made by unrolling the reeds of the papyrus plant. Dried animal skins were also used; this was parchment or vellum.

Modern techniques

It was about 2,000 years ago that paper first appeared in China. The craft spread slowly, reaching Britain in the fifteenth century. Paper-making is the art of felting together any fibrous material to form a continuous sheet. Even today, some of the very finest expensive paper is made by hand. In addition to such things as straw, rags, linen and esparto (a fibrous grass), modern techniques make use of wool, silk, asbestos, glass and artificial fibres for the manufacture of special "papers".

Wood, far and away the main source of the bulk of the world's paper, consists essentially of millions of tiny cellulose fibres, cemented together with a substance called lignin. It is just these fibres which make it possible to obtain a continuous sheet by disintegrating the wood, mixing it to a pulp with water, allowing it to settle into a mat and finally pressing it dry. Tear a sheet of paper, examine the torn edge with a magnifying glass, and you will see the fibres which were once part of a tree.

Softwoods, such as spruce, balsam fir, hemlock and jack pine provide more than 90 per cent. of the pulp for paper making. At the lumber camps in the forests, trees of the right size, usually about 60 to 70 years old, are selected. They are felled by loggers with axes and saws, stripped of branches, and cut into four-foot lengths.

The felling is done in the late summer and autumn and the logs are stacked in piles until the winter. As soon as the first snows cover the ground, they are loaded on to large sledges and drawn by horse or tractor to the nearest frozen river or stream.

With the coming of spring, the melting snow and ice turn the rivers into raging torrents, which carry the logs in bumping, jostling masses down to the broader rivers and lakes. Occasionally, the logs become locked together in the narrows and rapids, and the foaming waters pile them into dangerous jams. Then the drivers—tough, experienced men whose work often involves considerable danger—come into action, freeing the logs with long, spiked poles. The drivers need to be as fearless as they are agile. Really serious jams sometimes have to be cleared with explosives.

The pulp mill is sited on a lake or large river and the logs normally reach it by water. Once at the mill the logs are either used at once or stacked in enormous piles which, from a distance, look like mountains of matchsticks.

The pulp-making process begins with barking. The logs are tumbled together under powerful jets of water to strip off the bark, leaving the clean, almost white, wood ready for pulping. The cleaned logs may be converted to pulp in one of two ways. Mechanical or groundwood pulp is made by forcing the logs against huge grindstones, revolving at high speed and cooled by water jets to prevent the wood burning. Chemical pulp is made by "pressure cooking" the wood with chemicals in 40-foot high tanks called digesters. This treatment dissolves the lignin binding the fibres together.

Wood for the digesters is first fed through a machine which chops it into chips about one inch long. To see one of these machines in operation is an impressive, almost frightening experience. Within seconds, a log four feet in length and perhaps a foot in diameter is literally ripped to pieces before your eyes. After screening, the chips are loaded by conveyor into the digesters.

Strength and toughness

Both methods of pulp production have their own particular advantages. Chemical pulping keeps the fibres intact and of good length. This gives a paper great strength and toughness, but it is a relatively wasteful method, converting only about half the weight of the log into useful pulp. Mechanical pulping, on the other hand, is quicker, and about 95 per cent. of the log is turned into pulp; but the fibre length is inevitably shorter.

The pulp may be used immediately, if the pulp mill is close to the paper mill, or it may be partly dried and compressed into sheets (looking rather like thick, spongy cardboard) for transporting. At the paper mill these sheets are broken up and churned with water to produce liquid pulp again. The pulp, looking something like porridge, is now beaten to a uniform consistency. The two types of pulp are often mixed together in just the right proportions to give the desired properties to the finished paper. Controlled beating helps to fray the fibres to the right extent, so that they will later knit together well to form paper.

At this stage, various additions are made to the pulp—dyes to give the desired colour, "sizes" to improve the texture and ink-retaining properties of the paper, and so on. Each type of paper—brown, writing, blotting, tissue, grease-proof—has its own special treatment.

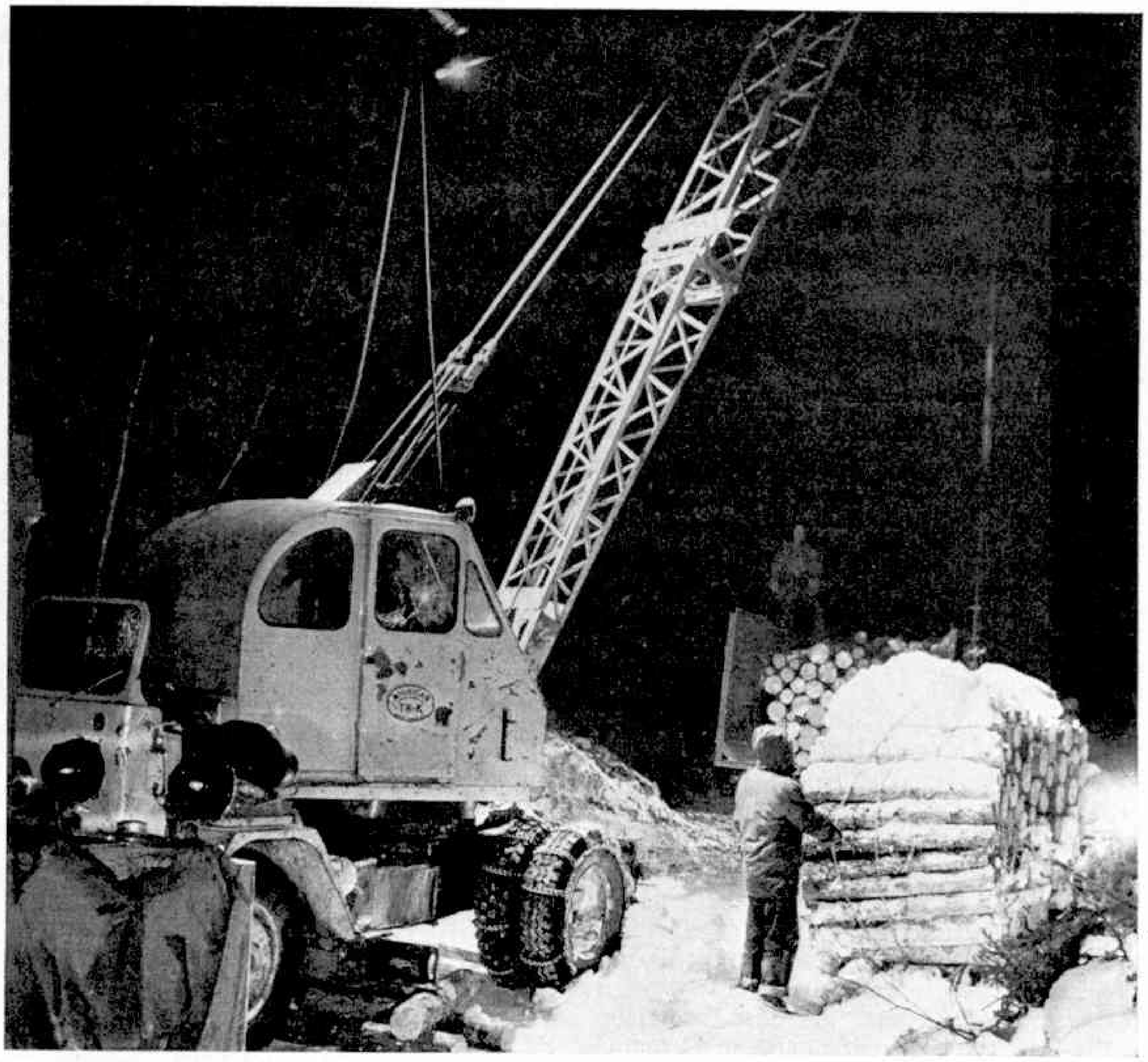
The pulp, plus additives—the "stock", as it is now called—is then ready for the machine which will convert it into paper. Basically, this process consists of pouring the stock on to a moving belt of very fine wire gauze through which the water drains, leaving a tangled, interwoven mat of fibres which, when pressed and dried becomes paper. The operation is a continuous one; liquid stock enters at one end and paper is drawn off at the other.

Huge machines

A big paper-making machine may be 400 feet long and may cost more than £1 million. At the "wet" end the stock runs on to the moving gauze belt, 20 feet wide. Suction from below helps to remove the water and settle the fibres. After travelling 60 feet the mat of fibres, still very wet, passes on to a belt of felt-like material, which supports it as it is squeezed between rollers to compress it and remove more water. Drying is continued as the sheet of paper passes alternately over and under about 50 hollow, steam-heated rollers. Finally, sets of very heavy rollers, or calenders, compress the now-almost dry sheet still further, giving it a firm, smooth surface.

Some modern machines operate at speeds of over 2,000 feet a minute, so that, after entering at the "wet" end, the finished paper emerges in a matter of seconds, to be taken up on a gigantic reel. As one reel is filled it is lifted clear by an overhead crane and replaced with a fresh one, so that the moving ribbon of paper never stops. A full reel from one of these machines may carry a 20-foot wide strip of paper twelve miles long.

Some special papers receive further treatment such as damping and "ironing" through very heavy rollers to obtain an extra hard, smooth surface. A coating of china clay or similar material imparts a high gloss to best-quality printing papers. Waterproof paper is treated with wax or some other water-repellent substance.



The finished product is cut and rewound to the width and length required by the customer. The roll is then wrapped in—can you guess? Yes, tough brown paper to protect it during a journey which may take it half-way round the world. The produce of a single mill may turn up as a paper hat in Britain, an ice cream carton in the U.S.A., a newspaper in India or a postage stamp in Iceland.

Preserving the forests

What of the future? As the demand for paper increases, is the supply of timber ever likely to become exhausted? Canada's forests alone cover about 1,600,000 square miles, of which about half is suitable for commercial operation. More than 3,000 million cubic feet of timber is cut annually and about 27 per cent. of this is used for pulp and paper production.

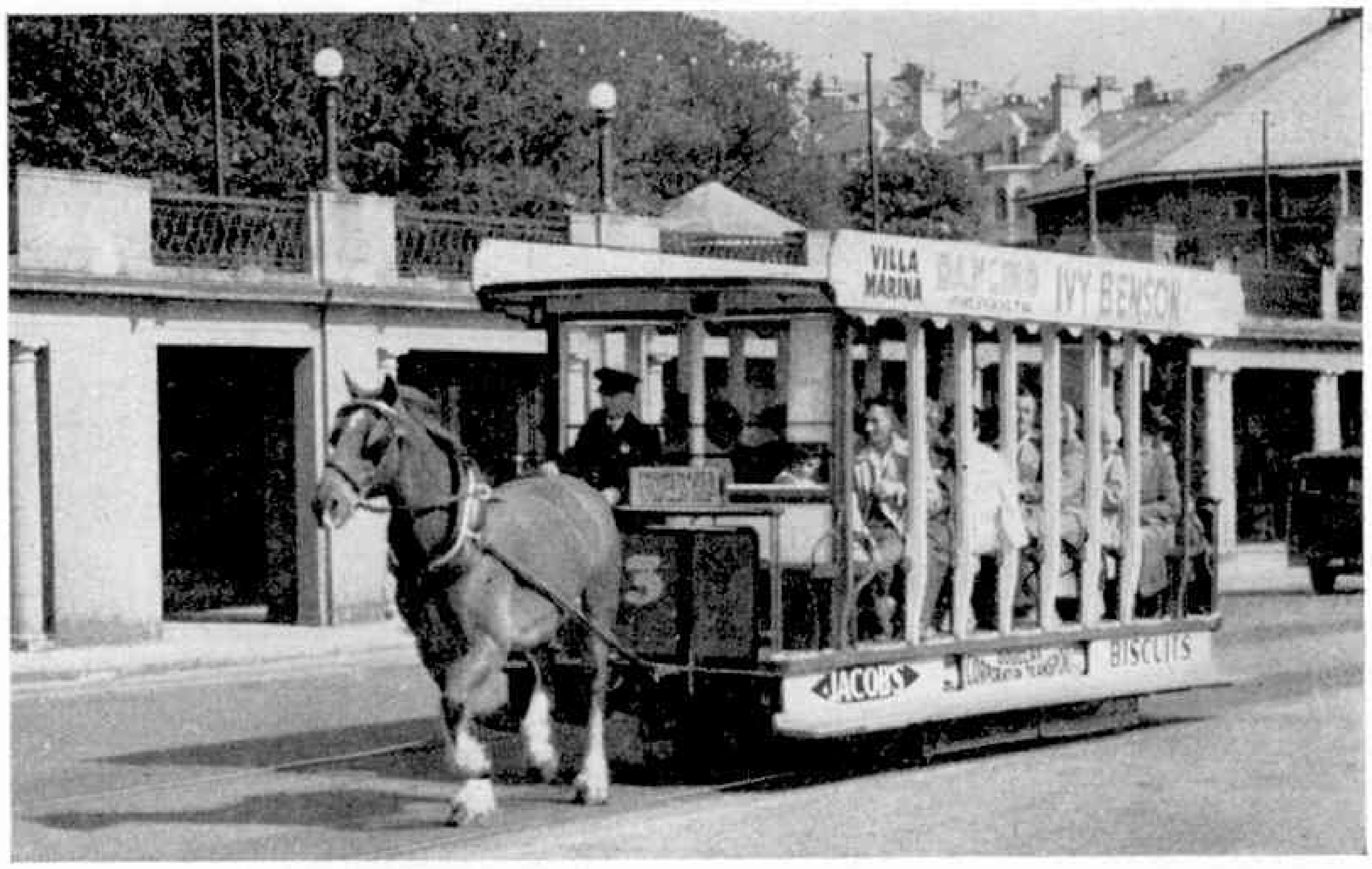
In spite of this enormous total, the forests can, if used intelligently, provide us with timber indefinitely. Canada, whose forests are one of its greatest natural resources, is very careful to preserve them. Much effort is spent in measures to prevent and control forest fires, which can destroy huge areas of valuable timber. Reafforestation is carried out on a large scale, millions of seedlings being planted annually. In fact, more new wood grows each year than is cut down.

Four-foot lengths of wood are seen (above) being hauled by mechanical means during night shift work. A cord of wood is being loaded by crane on to the Ontario Paper Company's truck at Heron Bay. (Canadian Government photograph.) Below: Fine grade paper in course of production at the Howard Smith mill in Cornwall, Ontario.

J. W. Gahan Surveys a

Holiday Island's Transport

Trams And Trains In The Isle Of Man



MENTION of the Isle of Man brings visions of pleasant hills, glens, blue sea and quiet harbours. It is a holidaymaker's paradise, but to the transport enthusiast is it also a place of pilgrimage.

As the visitor leaves the pier at Douglas, the island's biggest town, the horse trams on the promenade are not a mirage. They are real and tangible, and are probably the last of their kind in the world to traverse town streets. As San Francisco is the last home of cable cars, so Douglas is the last venue of the legendary horse cars, or "hay burners" as they used to be called in America.

The original line, of 3 ft. gauge, was opened as a private undertaking in 1876. It was extended, in 1877, and 1890, and now consists of 1¾ miles of double track. The line was acquired by Douglas Corporation in 1902. It seems incredible to recall that at one time electric and cable tramways also served the town, but the horse cars have long survived them and seem likely to see many more years of service.

The actual route of the tramway is along the promenade between Victoria Pier and Derby Castle. The tram depot is situated at the latter place, the "motive power" being stabled at Summer Hill. The depot has several tracks and a traverser, but all shunting is carried out by hand. The cars are very light and are fitted with roller bearings, so no great effort is required to move them.

The fleet originally consisted of both single and double deck four-wheeled cars, the former being a mixture of toast-rack and closed types. All the double deckers have been scrapped except car number 14, which has been presented to the British Transport Commission and is now in their new Museum at Clapham.

Although Douglas Corporation began to use motor buses as long ago as 1914, it still finds the horse trams, which are used only in the holiday season, a useful transport facility. They are also an enormous attraction to visitors.

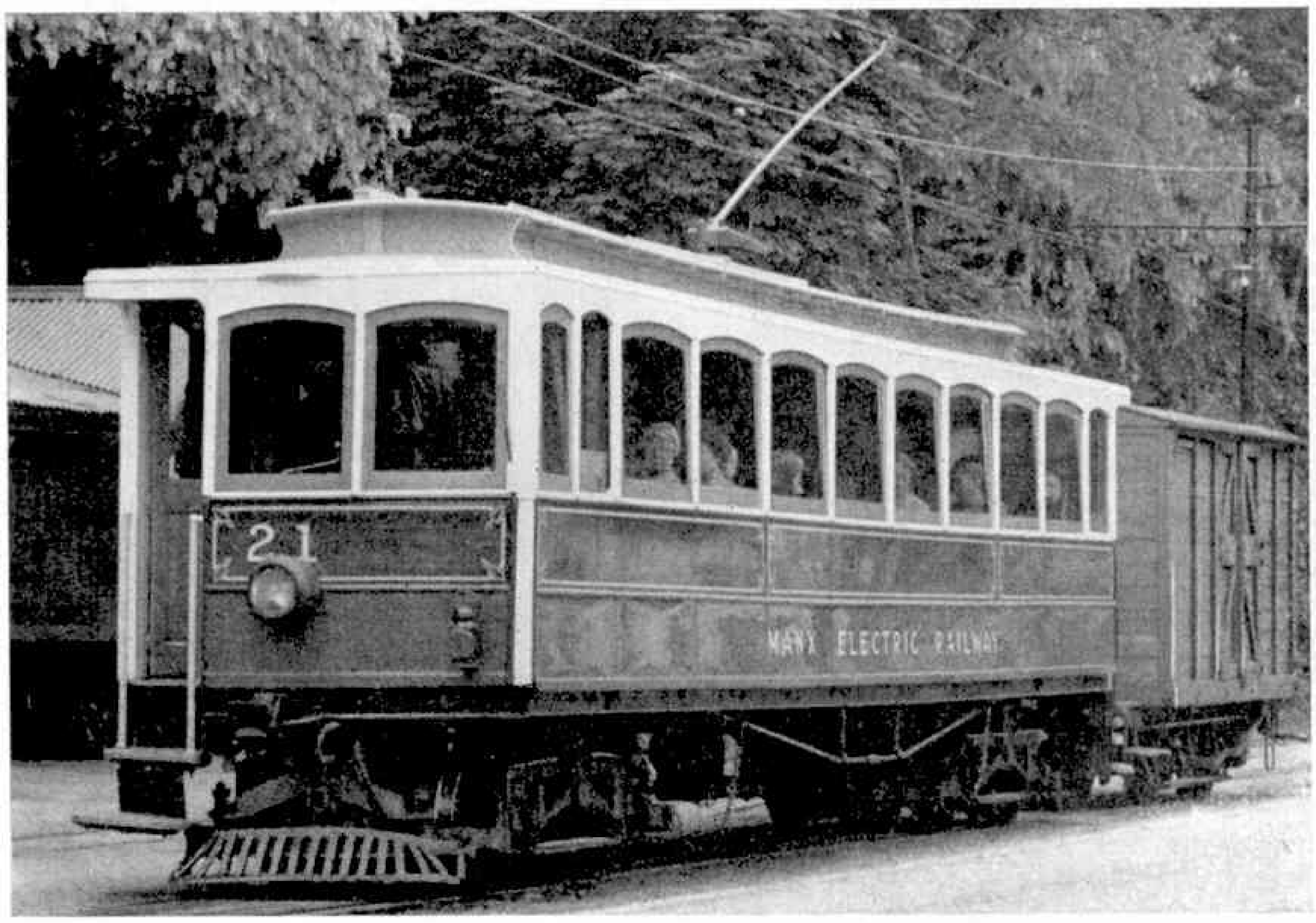
STEEP GRADIENTS

At Derby Castle, another railway, also of 3 ft. gauge, continues northwards. This is the Manx Electric Railway which started life in 1893, operating between Derby Castle and Groudle Glen. It was extended to Laxey, of Big Wheel fame, in 1894, and onward to Ramsey in 1899. The current supply is by overhead wire supported on bracket arm poles, the cars having trolleys, as in street tramway practice. Originally a form of Bow collector was employed. The route is a mixture of roadside and fully-reserved track, and there are some steep gradients.

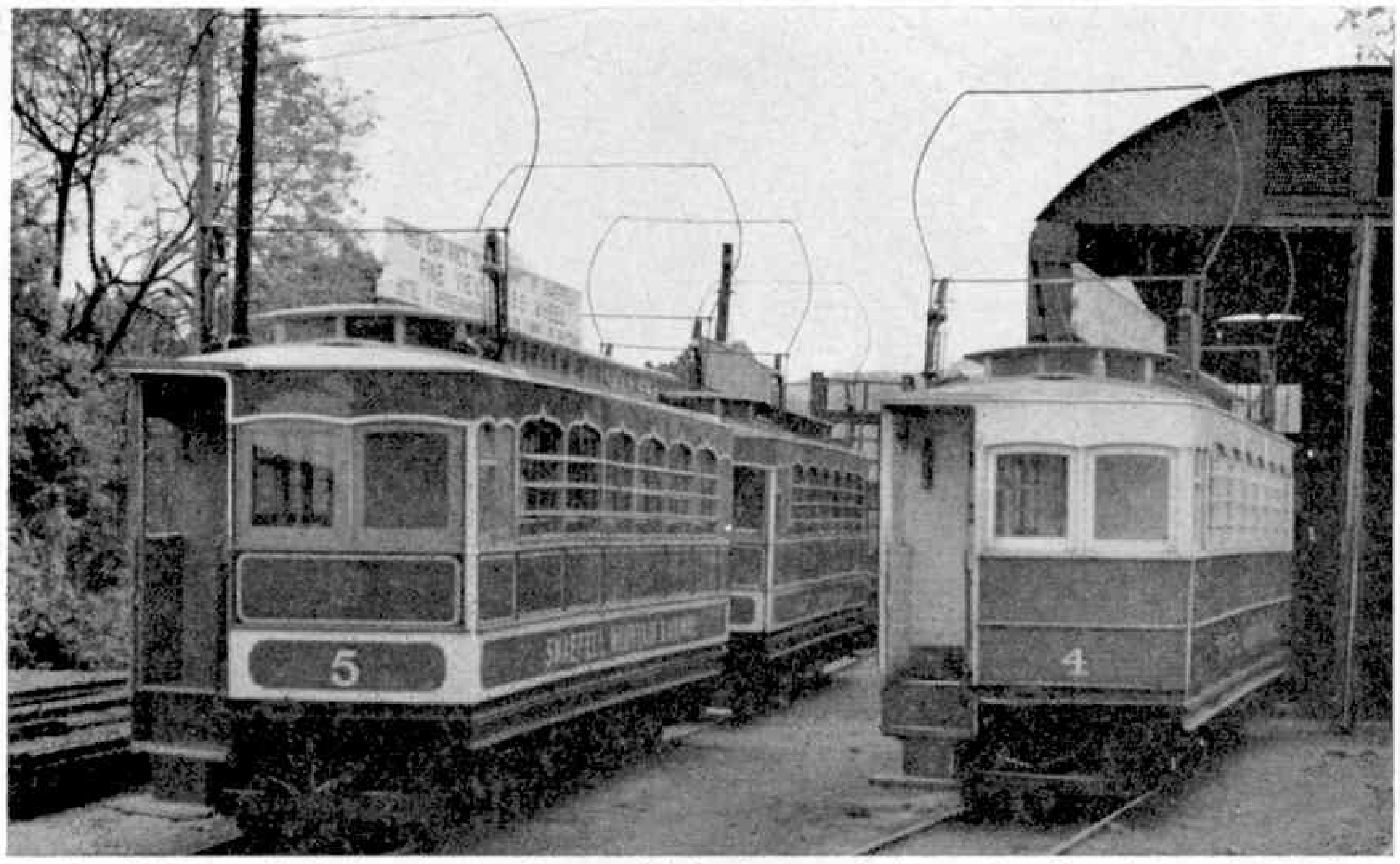
At Laxey, the line meets up with the 3 ft. 6 inch gauge Snaefell Mountain Railway, which is also electrically worked, but, because of the steep grades, employs the Fell system for additional braking. The summit of Snaefell is 2,034 feet above sea level.

The "Snaefell" and its steam-operated Snowdon companion in North Wales are the only true mountain lines in the British Isles. The mountain cars are bogie saloons with clerestory roofs, on which are mounted two Bows for current collection.

The rolling stock of the Manx Electric Railway consists of both motor and trailer cars. Some of the motor-cars are fully enclosed, with clerestory roof and arched windows. There are also open



One of the famous horse trams on the promenade at Douglas (above) and (left) a Ramsey–Douglas train with luggage van attached pictured at Groudle Glen.



The Snaefell Mountain Railway depot at Laxey. All the photographs illustrating this article are by K. Adams of Gloucester.

platform toastrack cars. The trailers are mostly toastrack or cross bench cars, ideal for use in summer when magnificent views of mountains and sea can be had from the trains. There are also a few closed, four-wheeled goods vans and some open wagons.

There was a time when the railway handled a considerable amount of stone traffic but this has declined and the open wagons are now of little use. The "Manx Electric" can be somewhat likened to the inter-urban lines which once linked towns and cities of North America until the coming of the private car. It is the last survivor of its kind in the British Isles with the exception of the Grimsby and Immingham line, owned by British Railways, now to be closed.

UNIQUE ENTRANCE

Some of the cars on the Manx Electric Railway are very similar in appearance to those which once operated on the Blackpool and Fleetwood Tramroad, one of which is still in possession of the Blackpool Corporation. The unique front entrance was common to both.

The Manx Electric Railway has led a precarious existence over the last few years, but has survived a threat of closure. A recent change resulted in the time honoured red, brown and cream livery being replaced by green and cream, but the old livery has been restored, much to the relief of the system's devotees. As it is today, the railway provides a perfect and unspoiled example of late Victorian electric traction, and it is to be hoped that a brighter future will be its reward, and that it will continue to provide its fortunate passengers with one of the most delightful journeys in Europe.

The Isle of Man Railway, of 3 ft. Gauge and entirely steam operated, extends from Douglas south-west to Port Erin, north-west to Peel, and, from a junction at St. John's, north and north-east to Ramsey. Originally there were three steam-operated railways in the Island. The first, the Isle of Man Railway Company, was formed in 1872 and the initial section—between Douglas and Peel—was opened to traffic in July 1873. In August 1874, the line from Douglas to Port Erin, via Castletown, was completed.

OTHER LINES

The second railway, the Manx Northern, was opened in September 1879. It began at St. John's and terminated at Ramsey. Finally, there was the Foxdale Railway, a short line extending from St. John's to Foxdale, built for the purpose of transporting coal to the lead mines at Foxdale and bringing away the lead. The line was opened in August 1886, but was worked by the Manx Northern from the outset. The lead mines have been abandoned for many years. These two lines were taken over by the Isle of Man Railway Company in April 1906. The system is mostly single track. There are few really steep gradients and no engineering features of note, except two short viaducts of steel girders on stone piers. These cross Glen Mooar and Glen Wyllin, near Kirkmichael, on the Ramsey line.

MAIN ATTRACTION

The locomotives are the main attraction of the Isle of Man Railway. There are fifteen 2–4–0 Side Tank engines built by Beyer, Peacock and Company, of Manchester, and one 0–6–0 Tank from the former Manx Northern Railway, as was also one of the former. The 2–4–0 Tank engines were built between 1873 and 1910, with a further example in 1926. The last-named has a larger boiler and cylinders than its predecessors. A practice which still survives from early days is that of having a polished brass dome, perhaps the last example of this practice in Europe.

Travelling Overland To India

DRIVING overland to India is no novelty to Paddy Garrow-Fisher. In 1957 he drove the first ever British bus from London to Bombay and his "Indiaman" coach convoys now leave King's Cross Coach Station regularly.

Young Australians and New Zealanders who come to England every year look forward to the adventure of the overland trip and, in September, the first "Indiaman" Land Rover "Dormobile" caravan convoy will leave London for Colombo.

The convoy will be led by Paddy himself, and the four passengers in each "Dormobile" will hire the vehicle and drive it themselves to Colombo. The 10,000-mile journey will occupy about ten weeks and the convoy will pass through Paris, Munich, Vienna, Belgrade, Sofia, Istanbul, Beirut, Damascus, Jerusalem and Bethlehem, Baghdad, Teheran, Isfahan, Quetta, Lahore, Delhi, Bombay, Bangalore and Colombo. The return group will pass through Bethlehem at Christmas, and future convoys will be timed to visit the Holy Land at Easter and Christmastide.

The Land Rover "Dormobile" caravans which are being specially built, provide for meals, water supply, sleeping and storage accommodation for baggage and bedding, making them completely independent of hotels.

Convoys will be followed by a service vehicle fully equipped with spare parts, and driven by a capable mechanic.

"The Queens" now carry Braille

Books in Braille are now included in the libraries on board the *Queen Elizabeth* and *Queen Mary*, announces the *Cunard News*.

The *Queen Mary's* library has some 20 volumes. The books are kept in the liner's first-class library but are at the disposal of passengers in every class. The books in Braille include *Greenmantle* by John Buchan, *Great Contemporaries* by Sir Winston Churchill, *Traffics and Discoveries* by Rudyard Kipling, *Saturday Out* by Lawrence Meynell, *The Reader's Digest*, and *The Wheel Spins* by Ethel Lina White.

From time to time the list in each ship is reviewed and additions made.

Blind passengers, or the near-blind who can read Braille, greatly appreciate this library service.

Although Cunard's other passenger liners do not carry books in Braille, they can be supplied if notice is given of a blind passenger travelling.

First From The Beagle Pack

EVERYONE in Britain who believes there is a future for private and business flying has been looking forward eagerly to the first products of British Executive and General Aviation Ltd. (BEAGLE), which was formed last October by the giant Pressed Steel Company. They were not disappointed when the Beagle-Auster Airedale was seen for the first time in a flying display at Baginton Airport, Coventry, on April 28.

Austers have always been fine flying machines, but they fell far below American standards of comfort, luxury and equipment for all-weather flying. The Airedale changes all that. The sturdy, well-proven Auster steel-tube structure is retained, but the design has been thoroughly modernised, with a nosewheel undercarriage and swept fin as two of the most noticeable spotting features.

More important so far as the pilot and passengers are concerned are the improvements inside. The four-seat cabin is roomy and well furnished. Wheel controls replace the old-fashioned joystick, and there is plenty of room for all the instruments and radio necessary for flying at night or in bad weather.

Powered by a 180 h.p. Lycoming 0–360 engine, the Airedale has a top speed of 148 m.p.h. and will fly 650 miles, with a full load, at 135 m.p.h. It will take off from a grass strip in 400 yards and has a landing run of only 200 yards. At a standard list price of £4,750 it will offer some good, healthy competition to the American business 'planes which have been flooding the British market in the past year. What is more, we can look forward to seeing a much larger twin-engined Beagle soon, perhaps at the S.B.A.C. display at Farnborough, in September.

First of the new aircraft from the Beagle group, the Beagle-Auster A109 Airedale (top picture) is a well equipped and highly efficient light executive and touring aircraft. Bottom picture: Near the main road at Caister-on-Sea is Britain's first combined filling station for cars and aeroplanes. Photograph by John Topham Ltd.

AIR NEWS

By John W. R. Taylor

FLY-IN OR DRIVE-IN

While on the subject of lightplanes, those readers who go to Great Yarmouth for their summer holiday this year can spend an interesting hour or two at Britain's first combined filling station for cars and aeroplanes.

Situated by the main road at Caister-on-Sea, just north of Yarmouth, the station is run by Mr. Gordon Wright, an ex-R.A.F. fitter, and has become one of the busiest in East Anglia. Nor are visitors able only to watch the flying, for Mr. Wright has a pair of Austers which are kept busy almost from dawn to dusk taking joy-riders over the coast and the nearby Norfolk Broads.

SURVIVED 1,000-FOOT FALL

A helicopter was taking off recently with a geological party in the far north of Russia when one of the passengers, Gennady Oshchepkov, turned the door handle to throw out a cigarette end. The onrushing airstream flung open the door and pulled Oshchepkov out of the cabin.

At once a helicopter rescue team took off to search for the missing man and soon spotted someone in the snow waving his arms. They thought he was a local hunter, but were astonished to find, on landing, that it was Oshchepkov. Apparently, he had ended his 1,000-foot fall in a huge snow-drift. A thorough hospital examination showed that he was uninjured.

LOOKS FOR BAD WEATHER

Few pilots enjoy flying in bad weather. Yet one R.A.F. Coastal Command squadron makes a habit of flying almost daily through deep depressions to find out how bad conditions really are.

For fourteen years No. 202 Squadron, based at Aldergrove, Northern Ireland, has been the R.A.F.'s only long-range meteorological unit. Equipped with specially modified Hastings aircraft, its tasks include what are known as "Bismuth"

Pictured (top) in flight is the impressive new French delta-wing fighter the Dassault Mirage III. Below is a British European Airways photograph of the Mali Pionair aircraft.

flights, extending some 800 miles into the Atlantic and ranging from the southern reaches of the Bay of Biscay to Icelandic waters. Most flights are made at a height of 1,500 feet along a track requested by the Central Forecasting Office at Dunstable, with the emphasis on areas from which weather information is limited, or where bad weather is suspected. Occasionally, however, parts of the track are flown as high as 18,000 feet.

The crew of eight on board each Hastings includes two air meteorological observers, who are kept busy gathering information about wind, cloud, temperature, humidity, visibility and other factors. If you think this sounds tame, remember that one Hastings, some years ago, was given the job of flying through the centre of the intense depression, known previously as "Hurricane Carrie", which had caused the sailing ship *Pamir* to founder with the loss of 80 lives. The information gained was of great value in preparing storm warnings.

SUCCESS IS NO MIRAGE

Often we tend to think of America, Britain and Russia as the three big aircraft-producing countries, with the rest rather unimportant. Yet the French industry is doing very big business nowadays.

As a start, it has not only sold 116 Caravelle jet-liners, but has set a completely new fashion with the rear-mounted engines of this aircraft which is being copied all over the world. Orders for the Alouette II turbine-powered helicopter have topped 740, and well over 300 Morane-Saulnier Rallye three-seat lightplanes have been sold, with production scheduled to reach 60 'planes a month by next March.

Even more outstanding has been the success of the Dassault Mirage III delta-wing single-seat fighter, illustrated above, for 100 of these are being bought by Switzerland and 30 by Australia. These countries normally turn to Britain or America for this type of aircraft, but the switch to a French fighter comes as no surprise. The Mirage III has a top speed of over 1,500 m.p.h., yet can be operated from a 1,000-yard airstrip with a full load. It is pleasant to fly and has a heavy armament, including two 30 mm. guns and guided missiles.

One consolation for Britain is that the Caravelles have Rolls-Royce Avon engines.

JET'S WORLD RECORD

During flight trials in April, a Douglas DC–8, powered by four of Pratt & Whitney's new JT3D turbofan engines, set up a world distance record for commercial aircraft. The big jet-liner, registered PH-DCK and painted in K.L.M. colours, flew 6,785 miles non-stop from Long Beach, California, to Rome in 11 hours 17 minutes—an average of over 600 m.p.h.

NOISE PROBLEM SOLVED

People living around London Airport will be interested to learn that the Danes have finally solved the noise problem.

Following protests about jet noise from the occupants of 78 houses near Kastrup Airport, Copenhagen, the Danish Government arranged to buy the houses and demolish them!

When the DC–8 took off it had nearly 68 tons of fuel on board—slightly under its maximum capacity. Over seven tons remained when it touched down at Rome, which means that it could have flown for another two hours, or nearly 1,200 miles further. In addition to the crew, it carried 25 observers.

FILMED FALLING BODY

Filmgoers who see Columbia Picture's *Edge of Eternity* will witness one of the most breathtaking sequences in the history of film-making. But few will realise how it was taken.

The scene opens with a wild fight to the death in an aerial car high above the Grand Canyon. It ends with a close-up of the murderer's body hurtling to the rocks far below. The body is, of course, a dummy. To film its fall, veteran pilot Bill Hartley dropped his Bell 47G–2 helicopter 1,800 feet in a screaming plunge, with a cameraman beside him, despite violent winds and turbulence in the Canyon. All of which goes to show the risks people are prepared to run to give you an exciting night out.

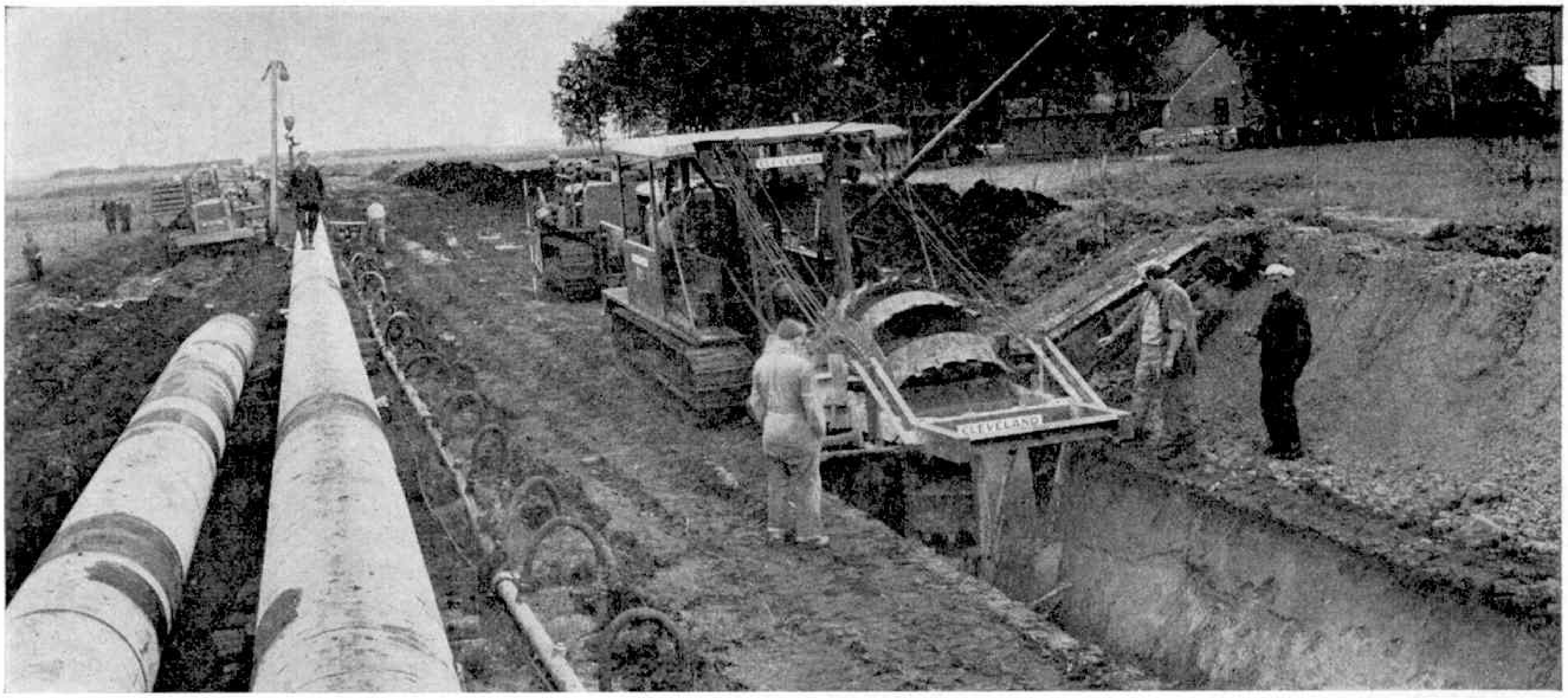
DAKOTAS GIVEN AWAY

One of the first things that any newly-independent country seems to do is to form its own national airline, and the African state of Mali is no exception. To help it get started, the Ministry of Aviation bought three Pionair (Dakota) airliners from B.E.A., for a total of £70,000, and made a gift of them to Air Mali.

The Pionairs were repainted in Mali livery, as shown on this page, and were then flown out from London Airport via Gibraltar.

INDIA'S SUPERSONIC JET-FIGHTER

Members of the Indian Parliament were told a few weeks ago that their country's first supersonic jet-fighter, the needle-nosed Hindustan HF–24, had made its first flight at Bangalore. The HF–24 was designed by Dr. Kurt Tank, one of Germany's top wartime aircraft engineers, who was responsible for the famous Focke-Wulf Fw 190 single-seat fighter. It has two Bristol Siddeley Orpheus turbojets with reheat, and is said to resemble in appearance the 1,500 m.p.h. Lockheed Starfighter.



In the illustration at the top of the page a huge machine is seen preparing a trench to take part of the pipeline. All the reproductions used with this article are from N.A.T.O. photographs.

Pipeline Across Europe

By
WILLIAM AITKEN

LIKE fingers of a giant hand, thousands of miles of pipeline are clawing their way across the face of Central Europe. By the end of this year they will have fulfilled NATO's dream in connecting up vital fuel-storage tanks serving Allied air and land forces in peace and war.

In modern warfare, POL (Petroleum-Oil-Lubricants) is the lifeblood of mobility . . . more so when the present trend is towards greater mechanisation on the ground, and faster, more powerful movement through the air.

During World War II, armed forces were all too often completely paralysed without adequate supplies of fuel. Vehicles carrying the precious liquids by road, rail and waterway were obvious targets for enemy bombs, and delays imposed by the destruction of roads, approaches to airfields and military formations made it clear that some *new* method of supply was overdue.

Flexible system

A great deal of study was given to this problem by SHAPE (Supreme Headquarters Allied Powers Europe) and associated bodies so that in 1952 the idea of a number of storage tanks in various NATO countries took root. If war broke out, this immensely flexible system—connected by pipelines—would enable Allied air forces to retaliate and sustain action against the aggressor.

In due course the task began, and the idea of tanks linked directly to ports, airfields, railways and canals appealed so strongly that the buried pipeline was designed to carry both jet fuel and the fuel needed for land forces as well.

How can one pipeline carry two widely differing fuels? The operation is relatively simple. The fuels are sent in sequence under high pressure, and although there is some degree of "contamination" when one fuel follows hard upon the other, this is easily cleared at the receiving end.

The diameters of the pipes used run from four inches to twelve inches. The smaller ones serve the numerous Allied Forces' airfields which are connected directly to the system.

The host countries through which the mammoth pipeline runs are Belgium, France, Germany, Luxemburg and the Netherlands. This, of course, gives Canada, the United Kingdom and the United States use of the system as well.

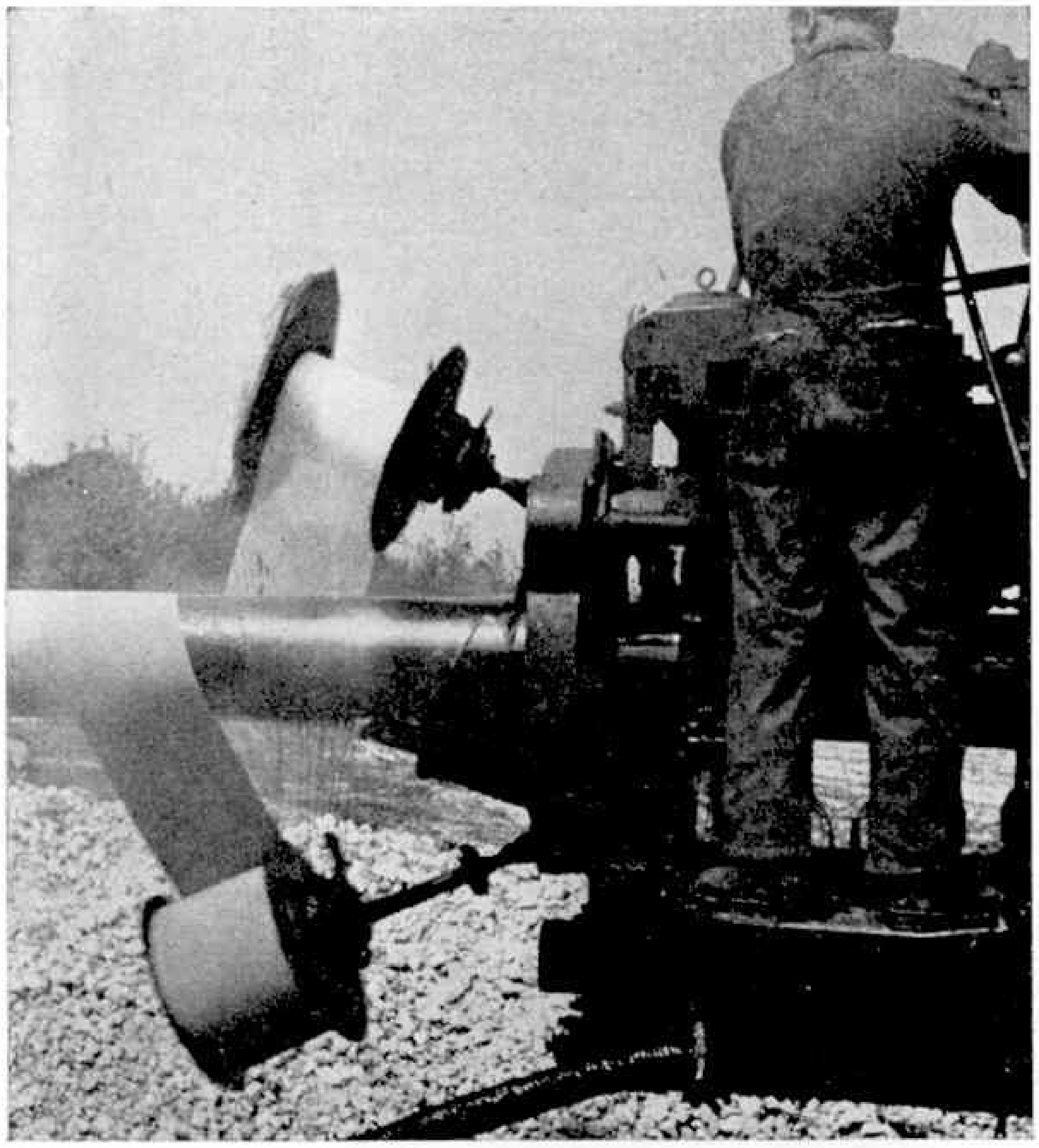
Central controlling body

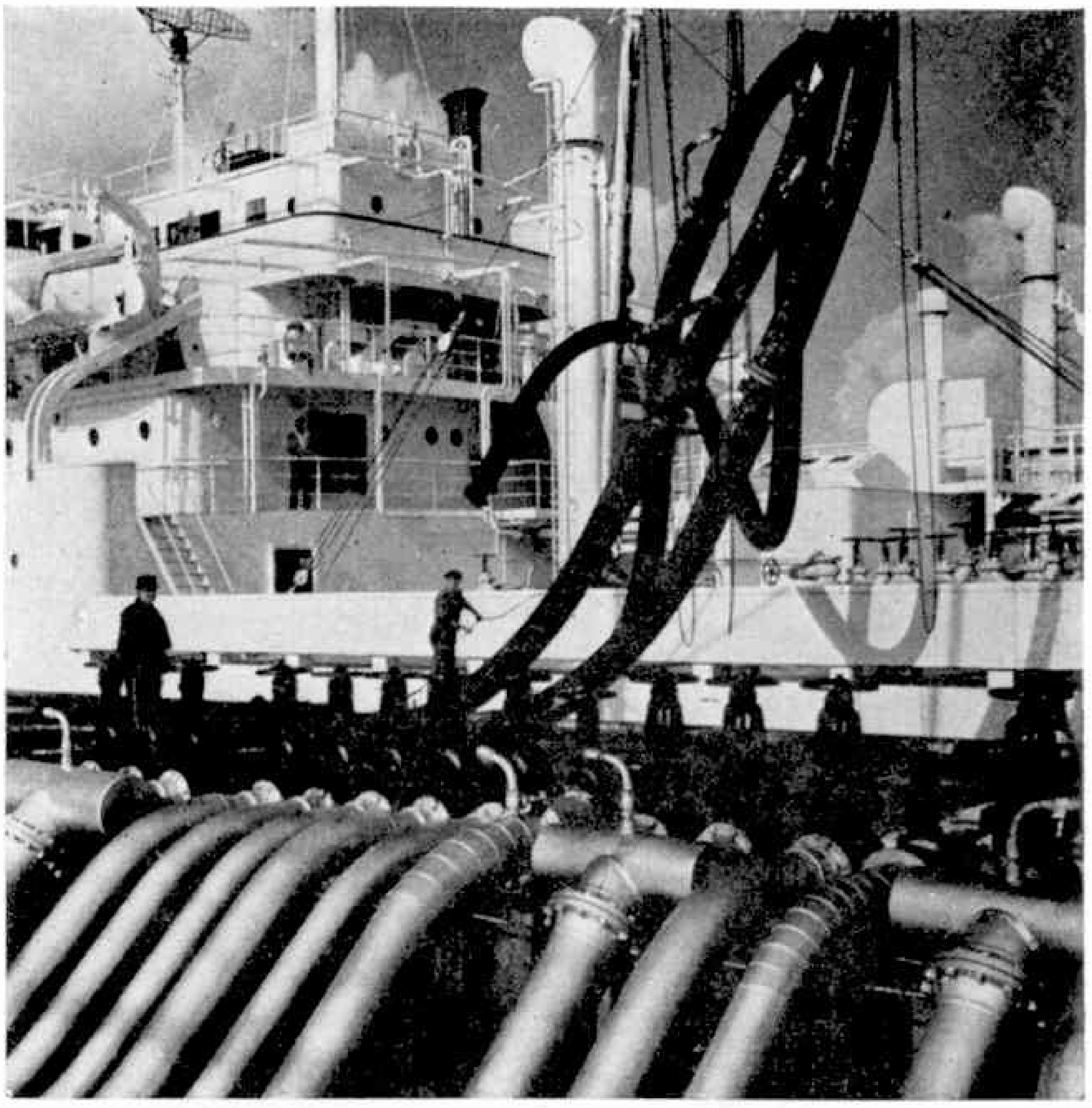
Running such a complex network calls for extremely efficient technical organisation, but this is amply found in the existence of seven national pipeline divisions under a central controlling body. These divisions are responsible for the day-to-day running of the system, being in touch with each other and every pump and filling station in their area by teleprinter.

Movement of fuel is, meantime, planned a month ahead, but when the project is complete the general system of communications will be such that a central agency can give an order down to the level of an individual pump or fuel point operator in any of the host countries. At the same time, the same agency is completely informed at any given moment of the precise fuel situation in all territories covered by the pipeline.

In addition to the Central European pipeline, there are separate NATO pipelines in Greece, Denmark, Italy, Norway and Turkey. They are not linked to the main artery for geographical and financial reasons. They nevertheless share in the same spirit of friendship and international common defence, which allows fuel bought by other countries to flow freely across their frontiers, unimpeded and free of tax.

When we consider that, to fill the tanks of a giant bomber, it takes every drop of fuel contained in five of the huge trucks that transport petrol about the country to ordinary filling stations, it is at once obvious what the pipeline would save in





time and transport in the event of war. Moving fuel from, say, Metz in France to a point in Germany can be accomplished in 24 hours . . . the work of 6,000 tank cars.

In Unobtrusive Places

Since the pipeline is, in a very real sense, a series of arteries carrying the lifeblood of SHAPE's defence apparatus, the exact nature and location of storage tanks and their outlets are among the West's most guarded military secrets. All the people involved are searchingly investigated and the POL facilities themselves are in scattered and unobtrusive areas.

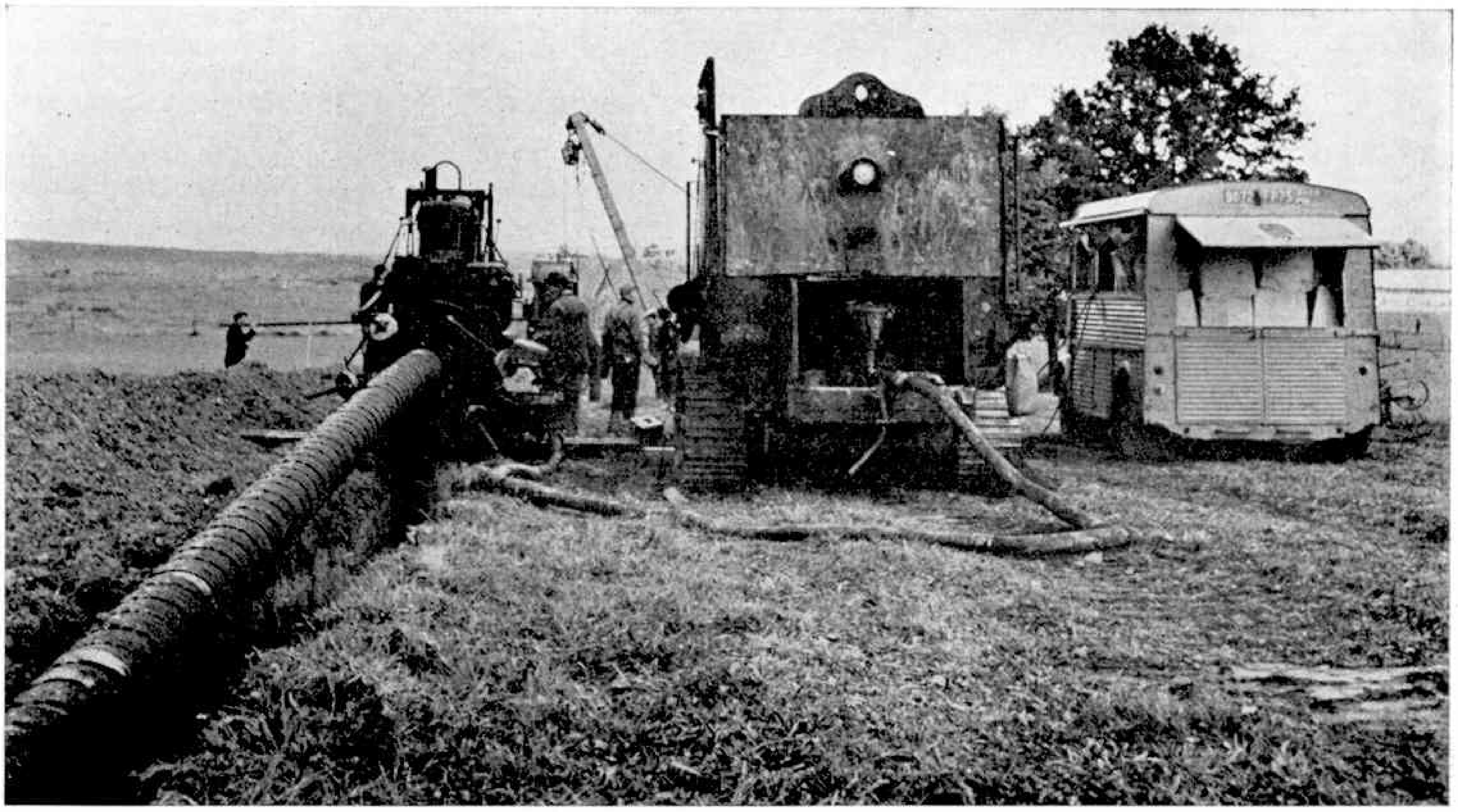
Such a huge project, of course, also entails a great deal of expenditure, but this is run on a common budget prepared by the host country. Services are paid for by Allied Forces using the pipeline system.

The straggling pattern of pipes is already in operation supplying the peacetime needs of the forces of the countries through which they pass. It can be converted to full-scale wartime requirements at the shortest notice.

A NEW B.P. TANKER

The keel of the biggest ship yet ordered for BP Tanker Company has been laid down at John Brown & Company's Clydebank yard, in Scotland. The tanker will be of about 67,500 deadweight tons. Her length will be 615 feet and width 112 feet.

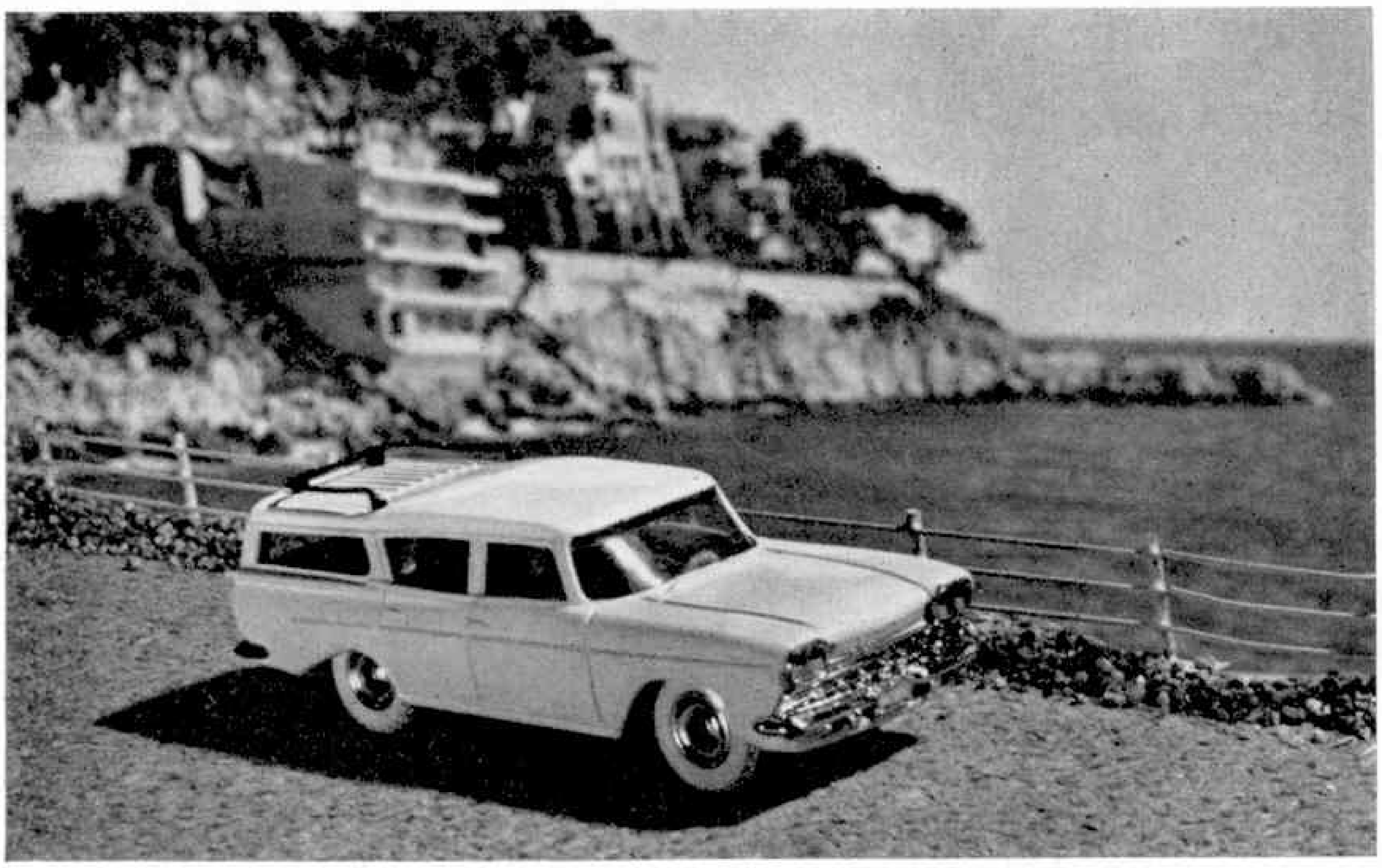
The new ship will be the first of seven 67,500-ton tankers which are on order for BP Tanker Company. She is expected to be launched early in 1963.



The pipeline is seen (right) about to be laid in the trench. Above (left) coating the pipeline against corrosion and (right) a tanker off-loading refined fuel.

DINKY TOYS NEWS

By **THE TOYMAN**



SMART RAMBLER AND NEAT FORD ANGLIA

New Models For Your Summer Schemes

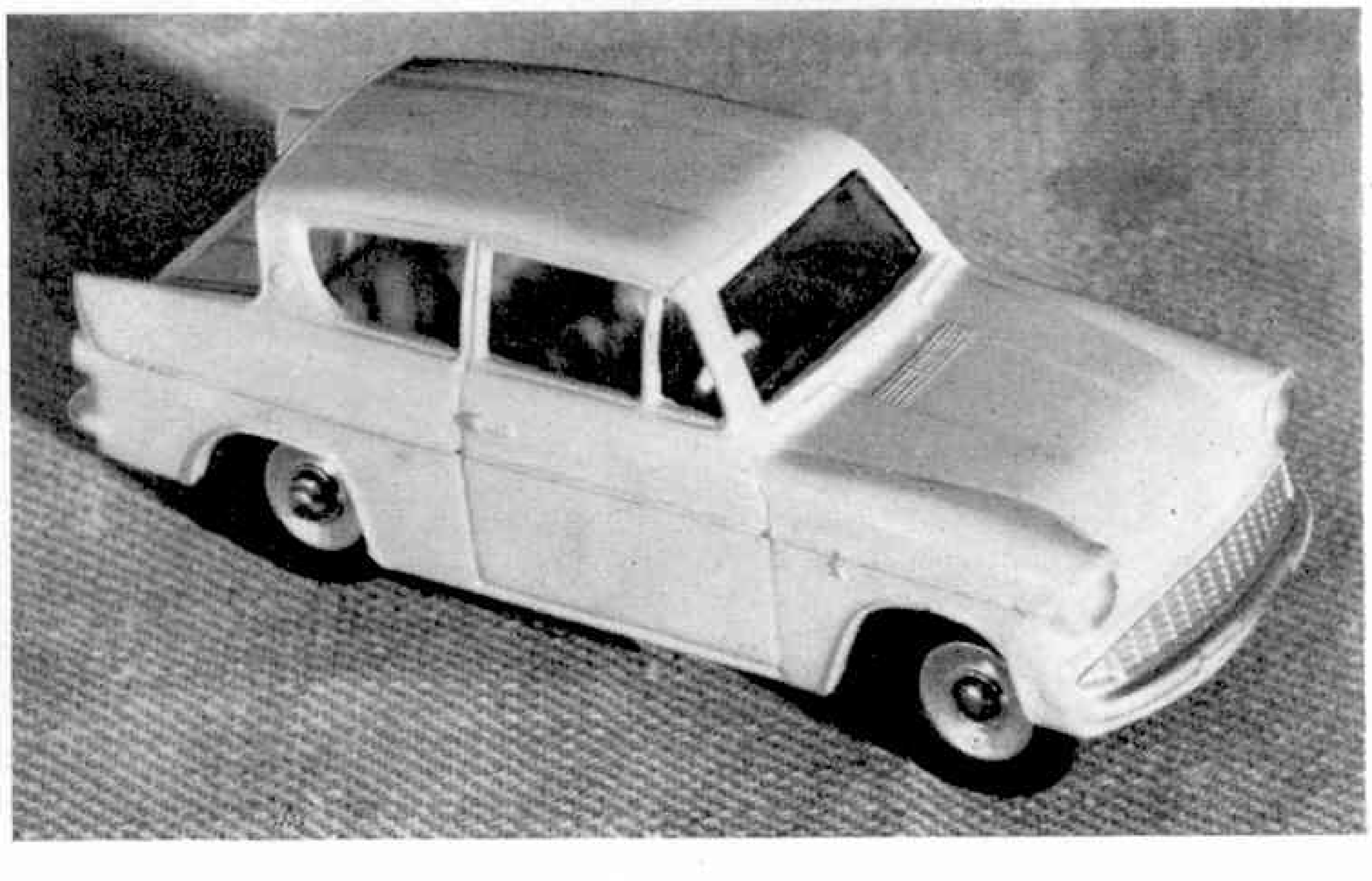
JULY and August are the months when we look forward to summer holidays unless, from preference or necessity, we have already had them. For most of us holidays mean travel, sometimes by rail, but quite often by road, and there are many readers, I know, who enjoy a camping holiday in which all the necessary gear is stowed away in the car.

The last few years have seen a growing interest in the type of vehicle which is used specially for holiday travel, and the appearance this month of a superb Dinky Toys model of the Rambler Cross-Country Station Wagon (Dinky Toys No. 193) is, therefore, very topical.

You see the new model, in the upper illustration on this page, parked at the edge of a promenade which has an almost Continental appearance. Probably the car's occupants are visiting a nearby cafe, or are exploring the beach. The whole setting is so picturesque and authentic that you might, at first glance, imagine that it is the actual car on a real promenade, which gives you an idea how very realistic the new Dinky Toys model is.

The actual vehicle is—as its name implies—designed for hard work under varying conditions and probably over rough terrain, yet the ride it provides is one of extreme comfort. The prototype has a roll-down rear window, and it also has

Above: The graceful lines of the Dinky Toys miniature of the Rambler Cross-Country Station Wagon are revealed in this studio picture. Right: A close-up of the Ford Anglia—Dinky Toys version.



A Road Safety Officer Advises . . .

USE CAUTION ON HOLIDAY

MOST of us are looking forward to holidays, either at home or elsewhere. At such a time we set out to enjoy ourselves in many different ways; often in ways that are new, or in places with which we are not really familiar.

If you are in a strange town, take extra care when crossing roads. Many seaside towns are particularly busy, with pedestrians just strolling about and traffic trying to weave its way through crowded streets. Keep your eyes skinned in one-way streets, where traffic is travelling in one direction only for the whole width of the roadway, and use zebra crossings wherever possible.

If you are cycling, don't tackle too long a ride at first; you become tired and less able to ride safely.

If you are bathing, don't take risks—bathe where other people are doing the same thing and keep an eye open for notices giving warnings of special dangers.

If you are out in the country, don't leave litter about, and please remember to close farm gates after you.

adjustable seats somewhat in the style of those on an airliner. Indeed, the Rambler is also available with seats which can be converted into comfortable twin beds, and a further striking point about this impressive car is that the cargo space, when the rear seats are collapsed, is big enough to hold a fair-sized boat and outboard motor. The car can be purchased with either a V.8 engine or a straight 6-cylinder engine.

The Rambler has a wheelbase of nine feet and the overall dimensions are: Length, 15 ft. 9½ in; width, 6 ft. 0⅕ in; height 4 ft. 9½ in. The Dinky Toys reproduction of this versatile vehicle is equipped with four-wheel suspension, windows, seats and steering wheel and, of course, "fingertip steering". It has a plated radiator, bumpers and wheel discs, and an intriguing additional feature which has never previously been seen on a Dinky Toys model. I refer to the plastic moulded luggage rack fitted on the rear section of the roof. By contrast with the camber of the main portion of the roof, the rear part is flat and ribbed to form the actual luggage enclosure.

Above: Photo-montage was used most successfully in this scene of a fire in which Dinky Toys Fire Engines are superimposed against the background of an actual fire.

Authentic touches

The Dinky Toys model is four inches wide and stands 1¼ inches in height. It has a wheelbase of some 2¼ inches and the vehicle is finished in an eye-catching yellow gloss, with white roof. It is full of authentic detail, even down to the petrol filler-cap.

Also released recently is a model for which many requests have been received from Collectors. It is, as you can see from the photographs on this, and the previous, page a wonderfully-detailed miniature of the new Ford Anglia, which has rapidly become one of Britain's most popular cars. The actual vehicle has an overall length of 12 ft. 9½ in., a width overall of 4 ft. 9⅜ in. and a height of 4 ft. 8½ in. Its overhead valve, sports-style engine has a capacity of 997 c.c., and it develops 39 brake horse power at 5,000 r.p.m., with a compression ratio of 8.9 to 1.

The fuel tank holds seven Imperial gallons and the gear-box gives four forward speeds and one reverse. This is a new departure in Ford models, which have always previously been fitted with a three-speed box.

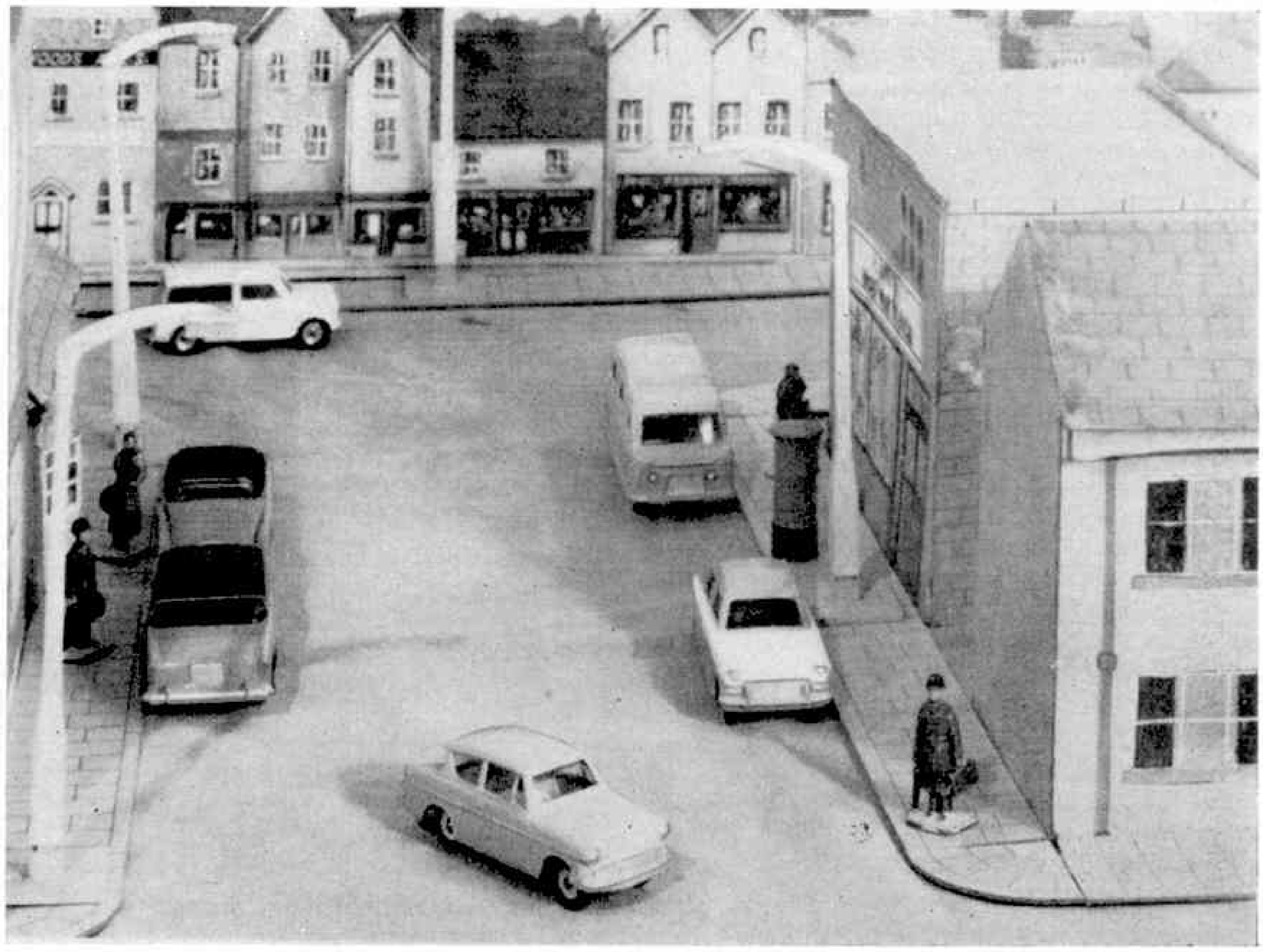
One other very important feature, of course, is the car's rear-raked window. The new Anglia has a wheelbase of 7 ft. 6½ in., with a front track of 3 ft. 10 in. and a rear track of 3 ft. 9¾ in. and a turning circle of 32 feet. The Dinky Toys model, numbered 155 in the list, measures 3 3/16 in. in length and approximately 1¼ in. in width, with a wheelbase of 1⅞ in. Fitted with fingertip steering, windows, seats, steering wheel and four-wheel suspension it is finished in a pleasant, all-over turquoise gloss which adds the final touch to a most attractive miniature.

Attractive interiors

Both the Dinky Toys Ford Anglia and the Rambler Cross-Country Station Wagon have attractive interiors in bright red.

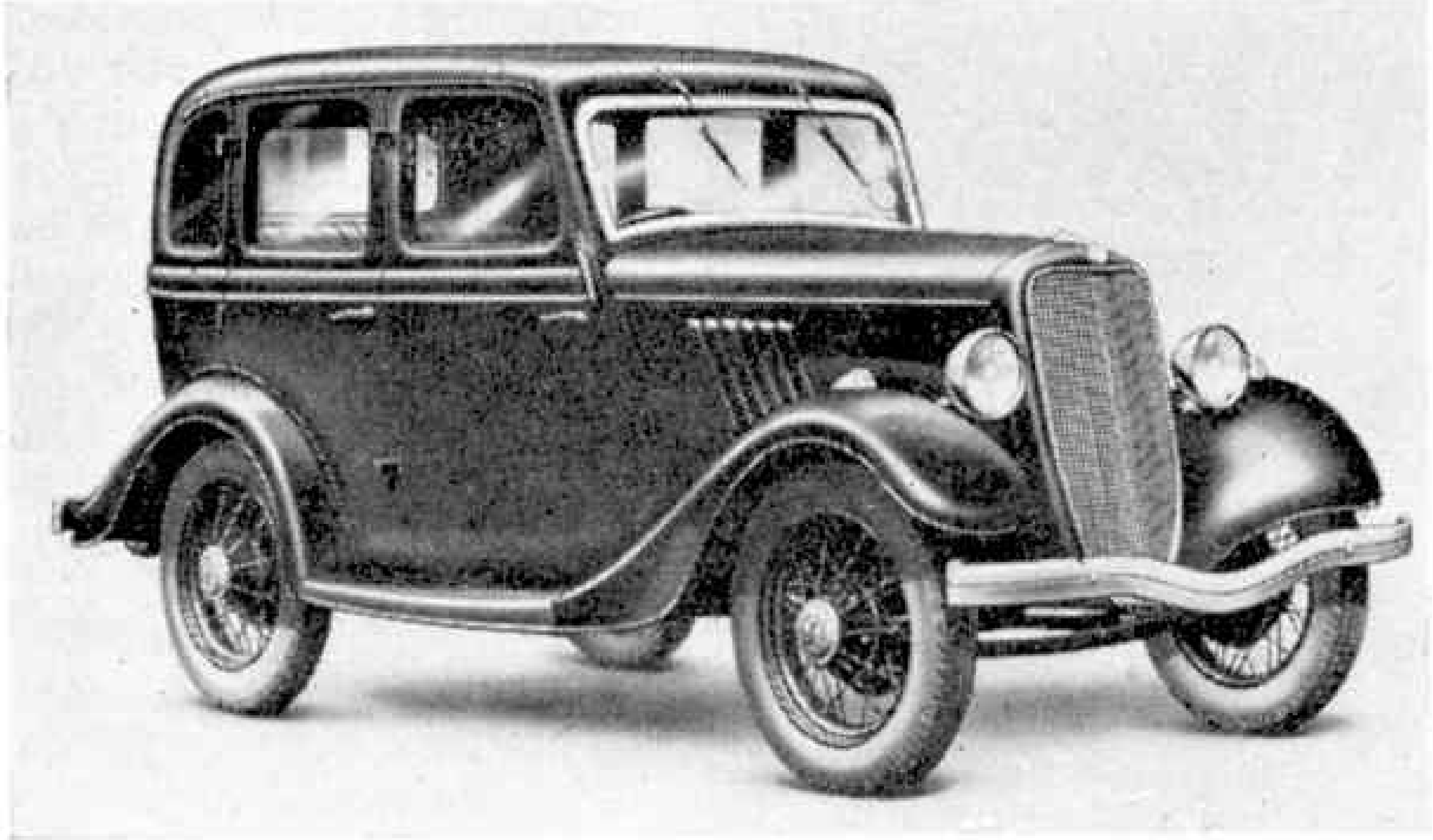
The photograph at the foot (*Cont. on next page*)

A street scene in which good use is made of the new Dinky Toys Ford Anglia. Single Arm Lamp Standards (Dinky Toys No. 755) have been introduced into the picture. Note also the effective use of the Pavement Set (Dinky Toys No. 754).



THEY WERE DIFFERENT THEN

No. 5. The Anglia Story



"Band-box" like in its neatness was the 1932 Y model Eight, pictured here.

It is more than 30 years since the Ford Company entered the small car market. The first "baby" Ford was the Y model Eight, introduced in 1932. Three years later this car—then known as the "Popular"—became the first fully-equipped saloon to sell for £100.

The Popular's successor, the 7Y Eight, came in 1938, to be followed in the succeeding year by the first Anglia model. This had the same 933 c.c., four-cylinder, side-valve engine as the 7Y Eight, but a number of styling changes were made, including a new front grille and a luggage boot. After the war, the model was changed slightly and given the 1,172 c.c. Ten engine for export markets. In this form the E494A model won many international events, among them the 1949 Tulip Rally.

By PATRIC BAKER

More than 108,000 Anglias were produced between 1948 and 1953, when the model was replaced by the immensely popular 100E version with a new body and suspension, and an improved 1,172 c.c. engine developing 36 b.h.p.

This rugged little car with the sporting feel was the standard mount of many successful rally drivers. It won its class in the R.A.C. Rallies of 1954 and 1955, the 1956 Scottish Rally and the 1956 Coronation Safari. Special tuning kits were developed for the big-hearted power unit which was used in many types of "home-brewed" and production sports cars. When this model was discontinued in September 1959, some 350,000 had reached the world's roads.

Current contender for Anglia honours is the 105E model, another entirely new design powered by a 997 c.c. O.H.V. engine with exceptionally short stroke and slow piston speeds, giving 39 b.h.p. at 5,000 r.p.m. This is the first time Ford's have used an overhead valve system on a small car. This Anglia has also started a new styling trend with its inwardly raked rear window, permitting exceptional head and leg room for rear seat passengers while increasing room in the boot.

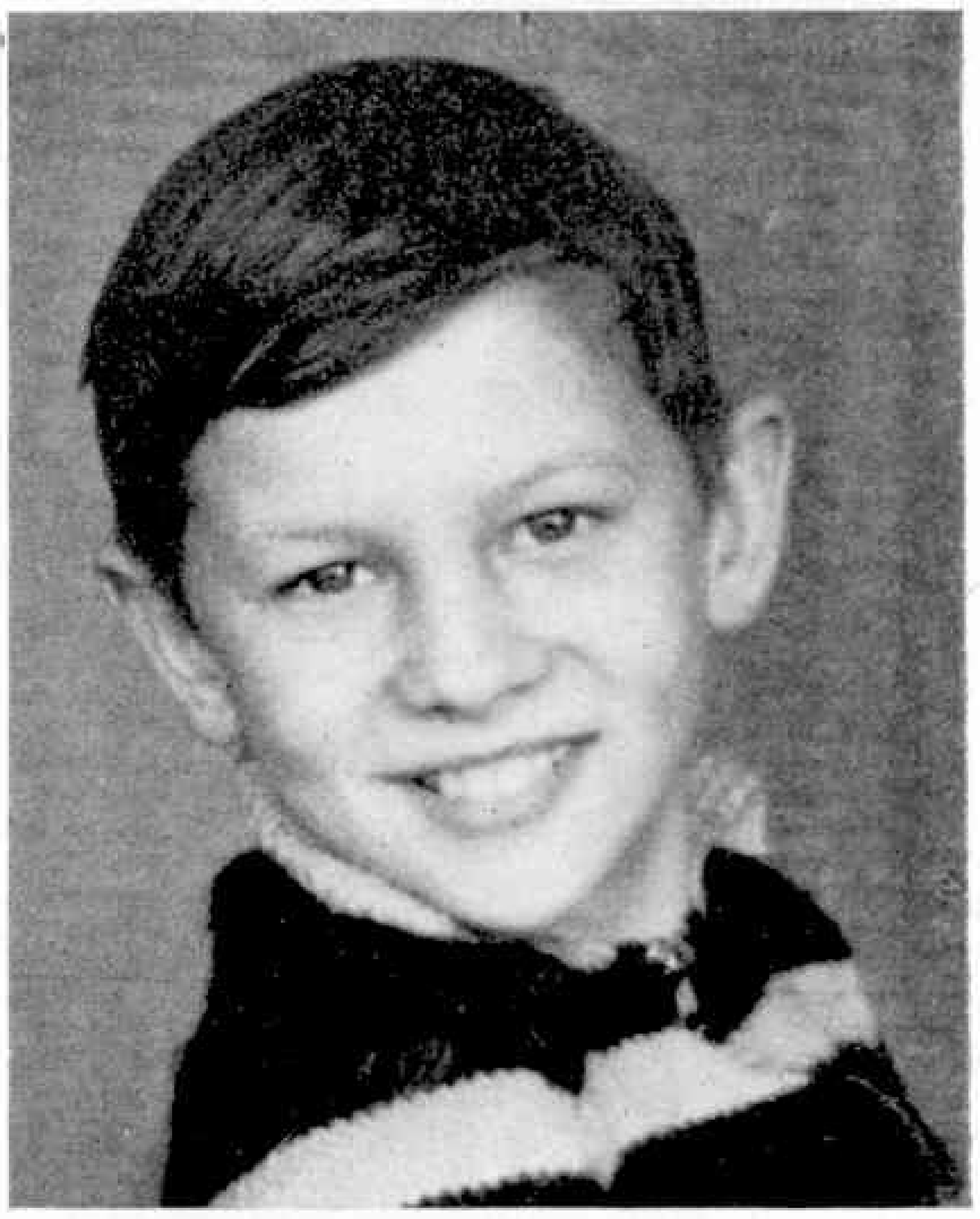
The performance of the 105E is outstanding in its class. It can top 75 m.p.h. and reach 60 m.p.h. in less than 30 seconds. Economy is also a strong point; well over 40 m.p.g. is readily obtained, even when the car is driven hard. Its sporting achievements are too numerous to mention. In May this year Anglias finished first and second in the Greek Acropolis Rally—probably the toughest event in the European calendar. In various stages of advanced tune, the 105E engine has also made its mark in Formula Junior racing. Within six months of the birth of the new Anglia, production was running at nearly one thousand a day. Since September 1959, well over 300,000 have been built, bringing the total of Anglias to date to more than 750,000.

The modern Ford Anglia de Luxe against the serene setting of the British countryside.

Dinky Toys News—

(*Continued from previous page*)

of page 247 shows the new Ford Anglia in an interesting street scene. In the town pictured here, parking is forbidden in the main street—which you can see running across the back of the photograph—and so cars have to park in side streets linking up with the main road. The Anglia is just leaving a parking space, and the only trouble is that in doing so it has to cross over to the correct side of the road and could form an obstruction to any traffic which might swing round the near corner at any given moment. The other models shown in this photograph are the Humber Hawk (No. 165), the Volkswagen Karmann Ghia Coupé (No. 187), the Morris Mini Traveller (No. 197), the Standard Atlas Kenebrake (No. 295) and the Triumph Herald (No. 189), all of which are in the current Dinky Toys range.



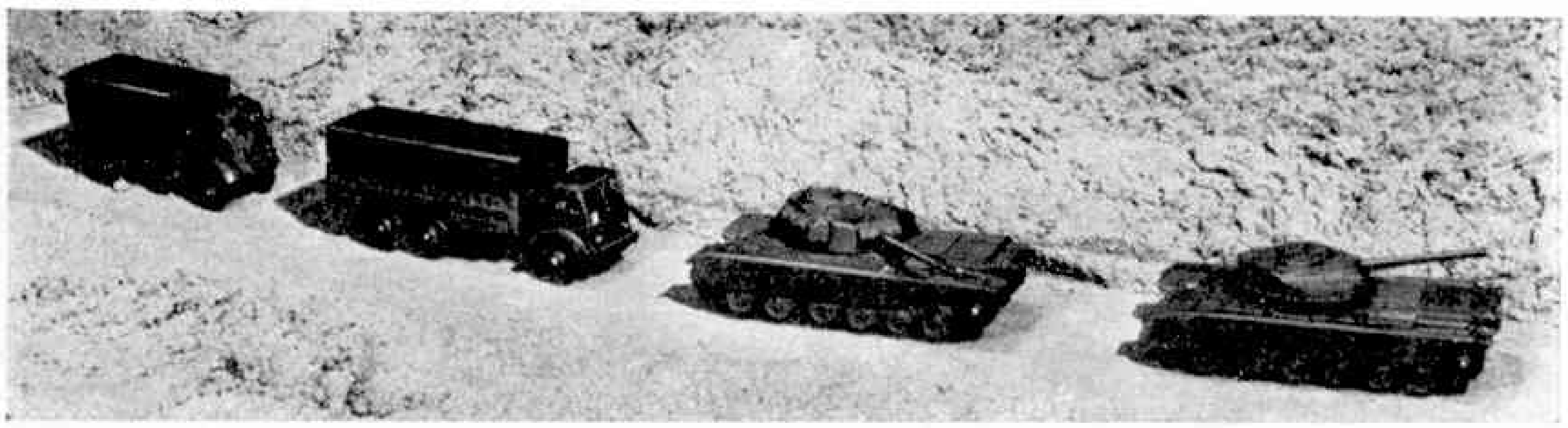
Michael Llewellyn of Schofield Avenue, Hill Top, West Bromwich, who was one of the winners of the Dinky Toys £2 awards in April.

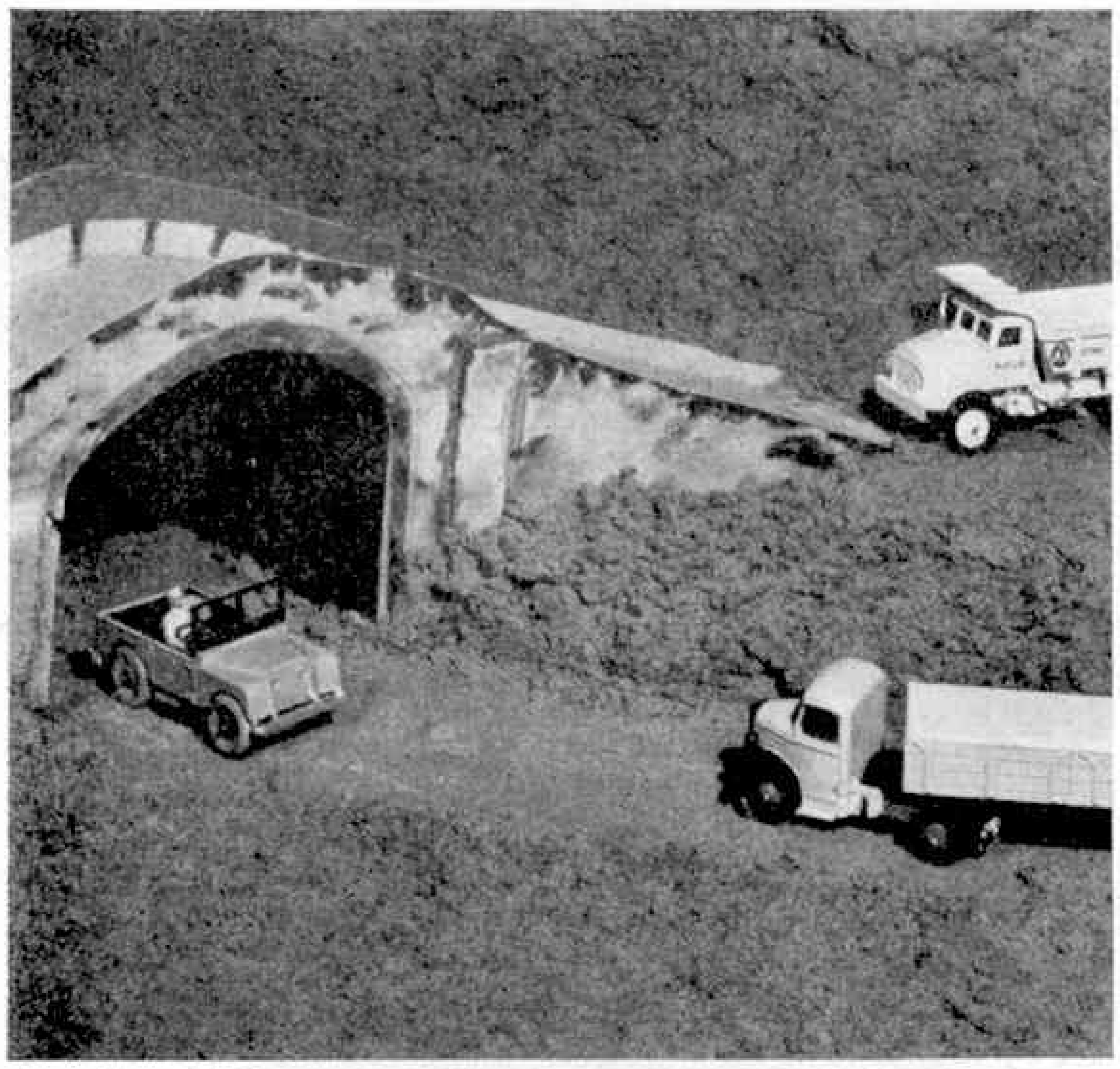
Now let me draw your attention to the fire scene at the head of page 247. It really is an outstanding picture because the Dinky Toys models have been superimposed against the background of an actual blaze, and you can see how extremely realistic the Dinky Toys firemen look as they face the smoke and flames.

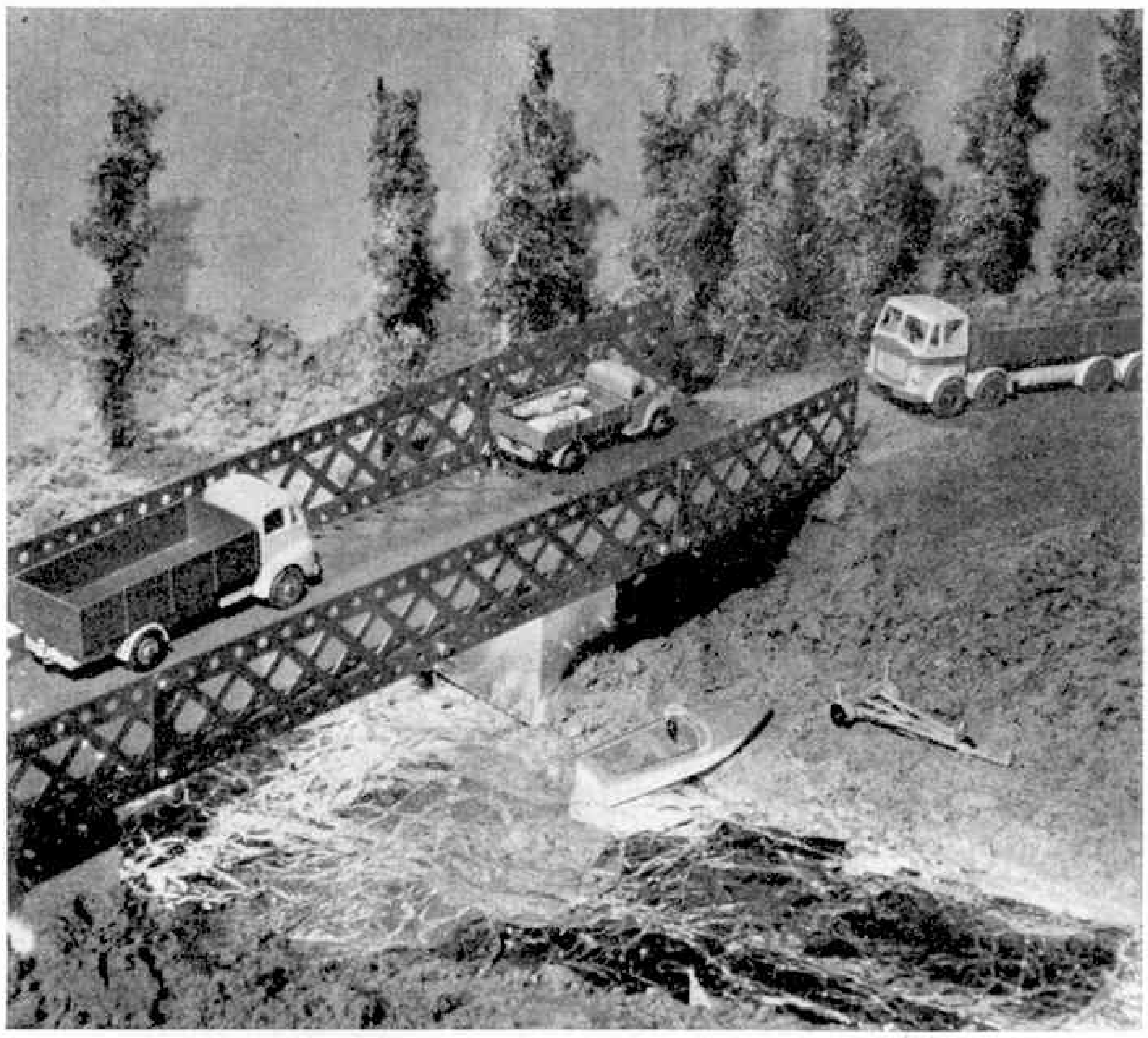
Finally, you will see that page 249 this month has been devoted to a selection of sand scenes which can be created with the aid of Dinky Toys. This is a wonderful way of passing an hour or two on a sunny summer's day, and the pictures have been carefully designed to show a diverse range of operations which you can quite easily copy. If you use models on the sands in this way, will you please remember not to oil them before you start, as the oil is apt to hold the sand. Be sure to clean them very carefully when you have finished.

DINKY TOYS ON THE SANDS

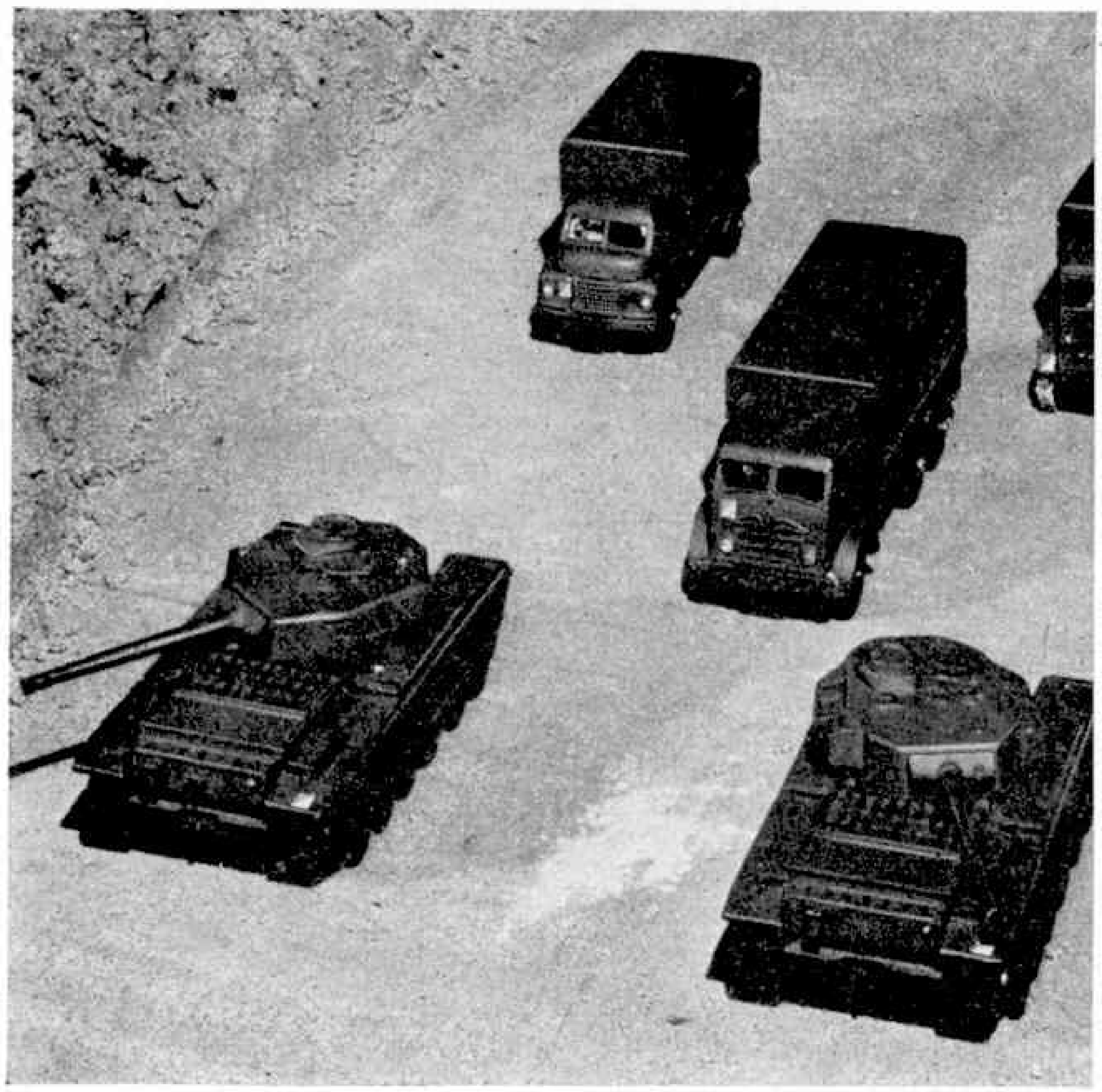
This is the time of the year when Dinky Toys can be used very successfully in sand schemes out-of-doors. These pictures show you the sort of thing *you* can accomplish.



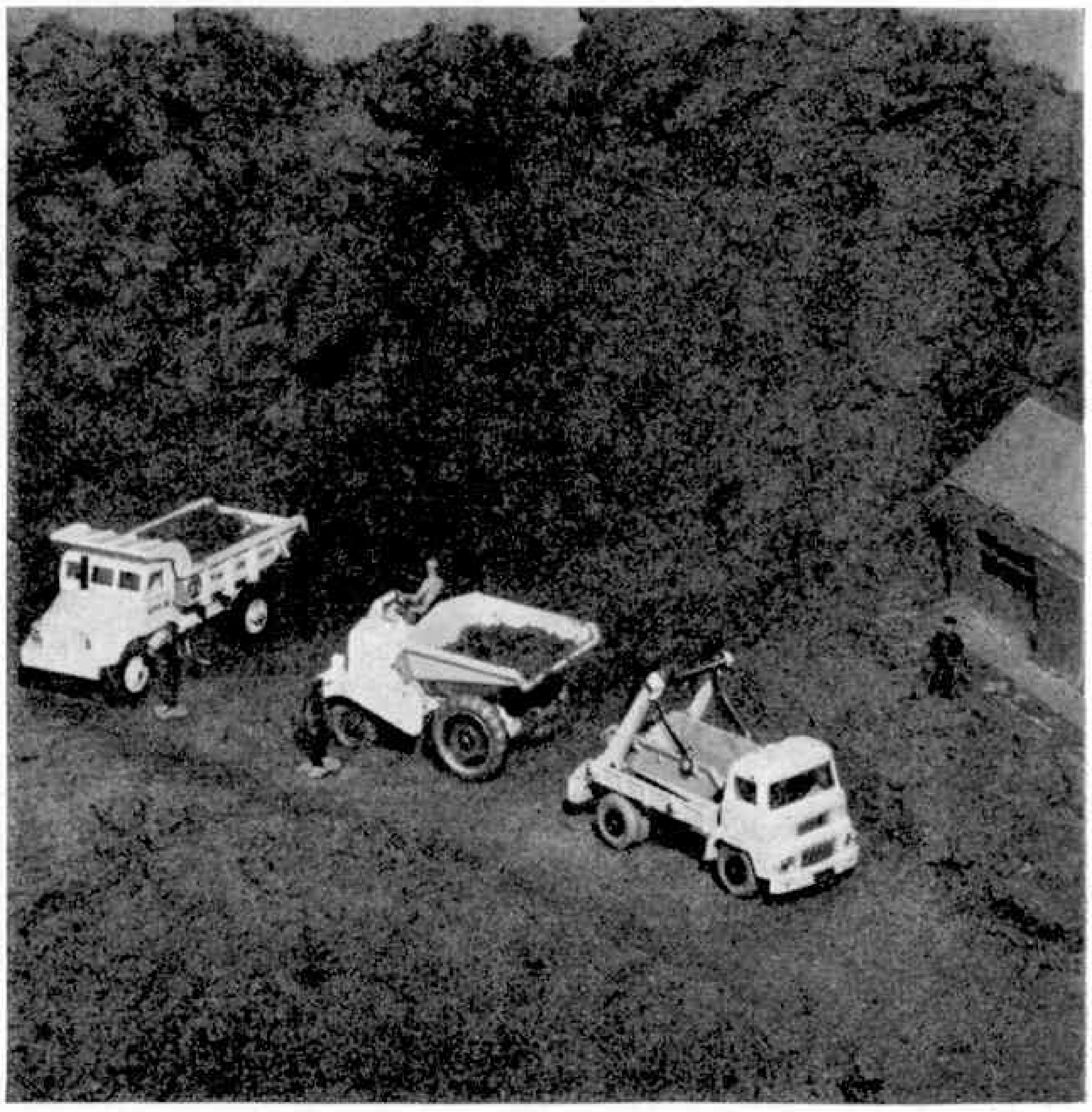




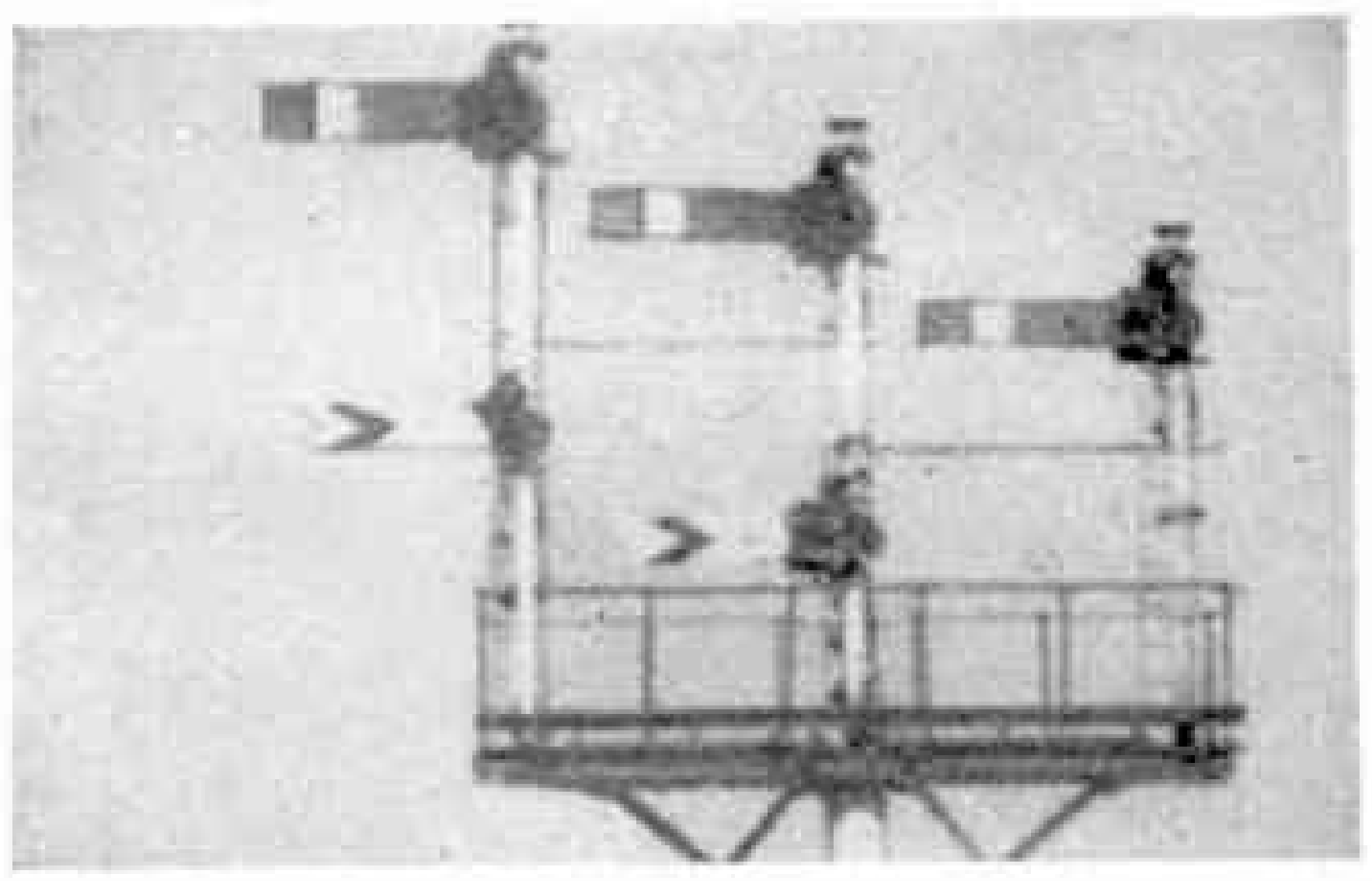
A cardboard bridge, prepared in advance, aids realism in the scene above. Right: Meccano parts have been used to create a "Bailey Bridge" atmosphere. Apparently the local Territorials have been busy on a bridging exercise.



Here is a scene based on desert warfare. Through the barren, sun-scorched countryside an armoured section is proceeding warily, with the possibility of an ambush in mind. Another desert scene is depicted in our top picture.



Three very popular Dinky Supertoys models—No. 965 Euclid Rear Dump Truck, No. 962 Muir-Hill Dumper Truck and No. 966 Marrel Multi Bucket Unit figure in this quarry scheme. The cardboard building and small figure on the right add considerably to the theme.



RAILWAY NOTES

Contributed by R. A. H. Weight

GRAND SOUTHERN REGION PACIFIC RUNNING

ON weekdays, between London and Bournemouth, there is an almost hourly service of express or principal-stations fast trains, with additional ones at busy periods. Most of them convey portions for Bournemouth, West, terminus, and some continue after division at Bournemouth, Central, to Weymouth, in some cases detaching through carriages for Swanage at Wareham, with similar facilities in the opposite direction.

The fastest two-hour expresses between Waterloo and Bournemouth, Central, stop only at the important Central Station, Southampton, and the first three of the following runs by modified Merchant Navy Pacifics with maximum 12-coach loads, or well over 400 tons gross, were with those trains. In each case a special effort was being made, and with triumphant success.

The down 10.30 a.m. headed by No. 35008, *Orient Line*, enjoyed a clear road throughout to Southampton, maintaining an average of almost 70 m.p.h. over a good deal of gradually rising ground, from the suburbs at Wimbledon to Worting Junction, 50 miles from London where the West of England main line is left. The train passed Winchester, 66½ miles, in 64 minutes at 74 m.p.h. Time being well in hand the tempting descent past that city to beyond Eastleigh was taken comparatively easily, but after the usual cautious approach round curves, Southampton, 79¼ miles, was reached three minutes early in barely 78 minutes.

In the up direction, the 2.40 p.m. from Bournemouth, with No. 35027 *Port Line* in charge, gained slightly on the rather tight 32-minutes allowance to Southampton, almost 29 miles away, over a more sharply-graded route across the New Forest. After taking water and loading passengers and mails, etc. at Southampton, an astonishing climb, with 430 tons behind the tender, up the gradual 16-mile rise past Eastleigh, Winchester, Micheldever, without speed dropping below 65 m.p.h., took the train through Basingstoke in 34 minutes from the re-start. There was a signal check here, as indeed there was approaching Woking, the train being well before time. With several maximum speeds in the 80–85 m.p.h. range on a favourable and largely straight track, and with only slight further checks, Waterloo was reached several minutes early, in an overall time from Southampton of 78½ minutes.

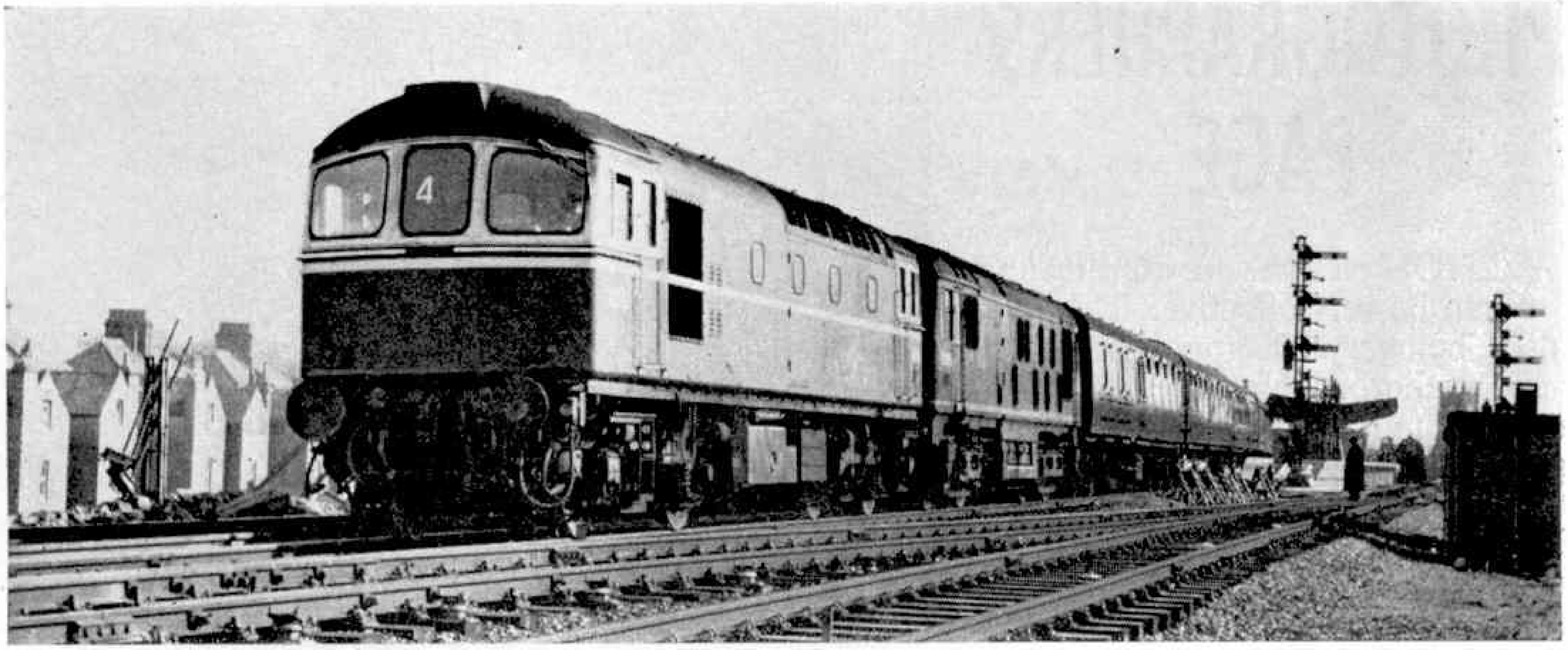
Rebuilt West Country 4–6–2 No. 34017 "Ilfracombe" is heading the 6.21 p.m. from Cannon Street to Ramsgate past Chislehurst in this photograph by B. C. Bending.

No. 35030, *Elder Dempster Lines*, needing to make up time after an earlier signal failure had caused delay, took no more than 1¼ hours unchecked. In comparison with the nett time of the previous journey, allowing for delays, a similar average was achieved from Southampton without such high uphill speeds, however. The timing in that direction is 84 minutes.

The up *Bournemouth Belle*, although allowed 87 minutes because the load is often very heavy, produced yet another Southampton–Waterloo "flight" at an average of over 60 m.p.h., the 78 minutes occupied converting a late start into an early arrival. It was No. 35030 again, with a winter load of nine Pullman cars—say 375 tons well filled. With this lighter train compared with those previously mentioned, a record—as far as I am aware—was made, in the ascent of the lengthy 1 in 252 stretch by averaging 71½ m.p.h. between Winchester and the summit at Roundwood signal box, passed at about 72 m.p.h. There was a burst of high speed before entering the restricted suburban area, where, on a Saturday evening, a clear road was secured into the terminus.

The down *Belle* from Waterloo at 12.30 p.m. every day of the week, having a 2 hours 10 minutes London–Bournemouth schedule, with 88 minutes allowed to Southampton, was on one recent occasion loaded to 11 Pullmans, 445 tons, hauled by No. 35029, *Ellerman Lines*. The engine, working easily, had been running closely to time all the way to Winchester, with a downhill maximum of 79 m.p.h., but suffered a severe track repair slowing before Eastleigh and so was fractionally late into Southampton. With powerful running over the ups and downs each side of Brockenhurst there was no difficulty in recouping the 3 minutes late start from that point, and passengers were alighting at Bournemouth, Central, just before 2.40.

The up "Man of Kent" from Margate to Charing Cross gets away from Folkestone Central behind two diesel-electric locomotives, No. D6512 of type 3 and No. D5005 of type 2. Photograph by M. Edwards.



The train afterwards goes on to the West Station and starts the return trip from there.

LIGHT PACIFICS IN KENT

I mentioned in the April issue of the *M.M.*, the London–Ashford–Folkestone main line is in the throes of electrification and motive power changes. Earlier than anticipated, multiple-unit electric trains will be operating many of the through express and other services. Electric locomotives also will be appearing this summer. The steam and diesel locomotives sharing operation at the time of writing will be largely superseded and transferred more to freight or other services.

It is fitting, therefore, to report two exploits by smaller rebuilt 4–6–2s on the 26½-mile section through orchards and hop fields between Tonbridge and Ashford Junction Stations, where fast running is usual. On the 9.10 a.m. No. 34016, *Bodmin*, with an "11-on" full load equalling 380 tons, ran start to stop in just over 25 minutes with a maximum of 84 m.p.h. near Headcorn. More startling still, with the fast portion of the 6.21 p.m. from Cannon Street, and "7-on", No. 34082, *615 Squadron*, after a terrific start out to Paddock Wood, 5¼ miles passed in 6½ minutes at 78, averaging 84 m.p.h. along the next 15 miles and arrived at Ashford in 23 minutes 9 seconds from Tonbridge start. This was decidedly before time!

As it happens the foregoing performances were all superior to any I have personally recorded during long experience and were logged by Messrs. Harvey, Nash, Nelson and Truss. The drivers concerned were stationed, variously, at Nine Elms and Bricklayers' Arms Depots, London; and at Bournemouth and Eastleigh.

On a run of my own timing behind a Battle of Britain 4–6–2, then unmodified, No. 34085, *501 Squadron*, with a Ramsgate crew, the 1.10 p.m. *Man of Kent* (the trains concerned are no longer named) ran down to Ashford nicely within schedule. There was good work up the initial climbs out of London to Knockholt, then maxima of 74–77 m.p.h. as well as an engineering slack. Had the train been the 4.10 from Charing Cross non-stop to Folkestone, an arrival there would have been quite possible in the quickest overall 80-minute timing which was applicable some time ago.

The down "Man of Kent" in charge of No. 34017 "Ilfracombe" passes Grove Park. Picture by S. Creer.

NEW CAR TRANSPORTERS

Models were recently exhibited at King's Cross Station of new-type double-deck covered vans expected to be ready for service this summer on the *Car Sleeper Limited*. This operates every night except Fridays, between King's Cross and Perth, for the convenience of motorists touring the Highlands, and is one of the popular trains of its kind. These transporters carry up to six cars, four in the upper deck and two in the lower. Loading is by a ramp to the top deck, and by connecting bridges between adjacent similar vans in the same train. Cars to travel on the other decks are lowered by electric hoist, thus increasing accommodation as well as saving time.

The formation of this express is likely to be six of the new transporters, one van for large motor cars, six sleeping cars and a passenger brake coach.

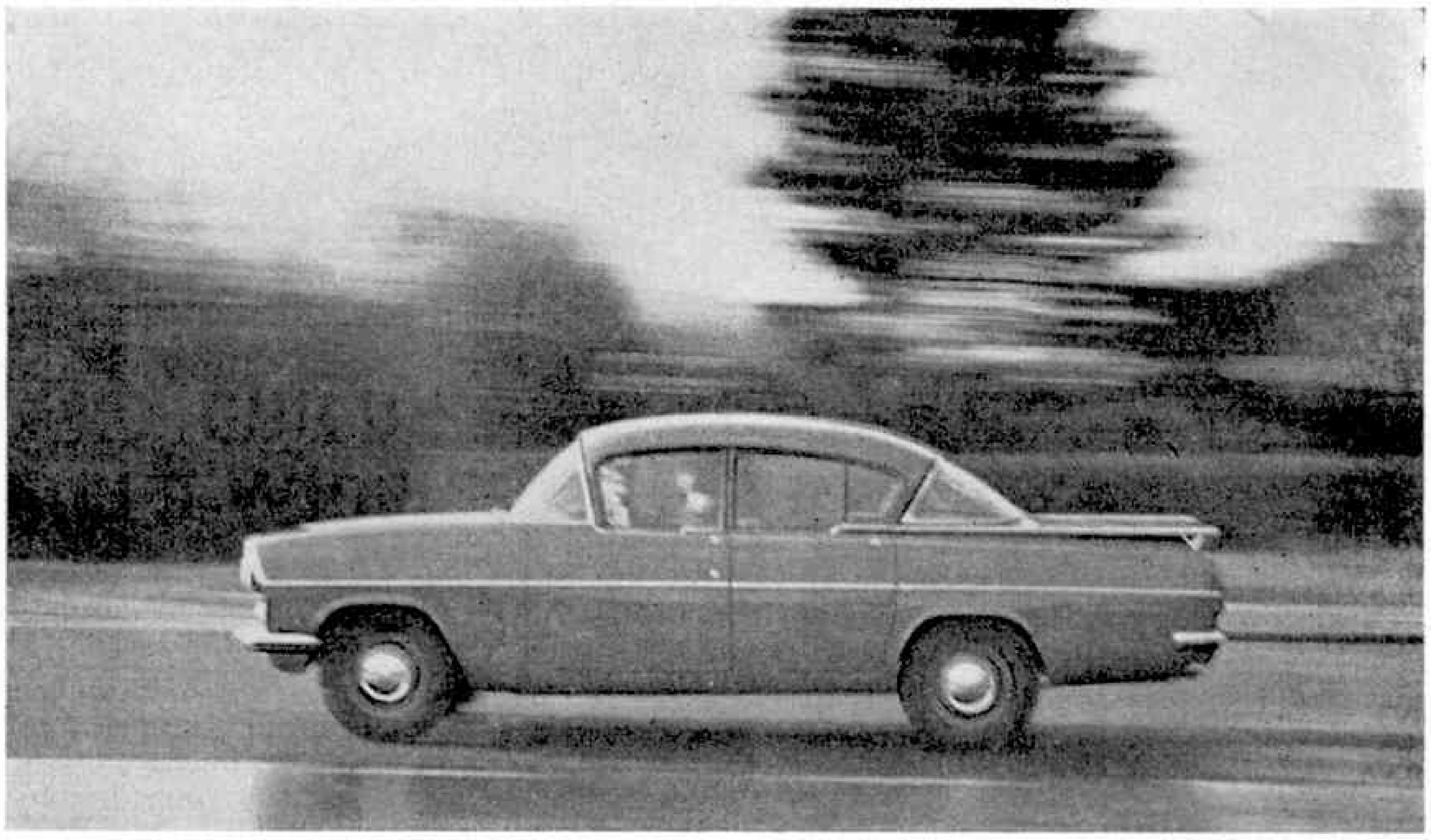
TRANSPORT MUSEUM OPENED

The first and most comprehensive museum of its kind organised by the British Transport Commission is open every weekday, including Saturdays, until 5.30 p.m., with an admission charge of 1s. for adults; 6d. for children. It is situated in a former bus garage at Triangle Place, Clapham, London S.W.4, and is easily accessible by road or Tube transport. A wide variety of small exhibits includes historic documents, pictures, maps, models, crests and so on related to the history of transport—rail, road and water—in Britain. At a later date an attractive array of period locomotives and stock, buses and trams will be on view.

PHOTOGRAPHERS' PAGE

H. G. Forsythe Offers Advice About

ACTION PICTURES



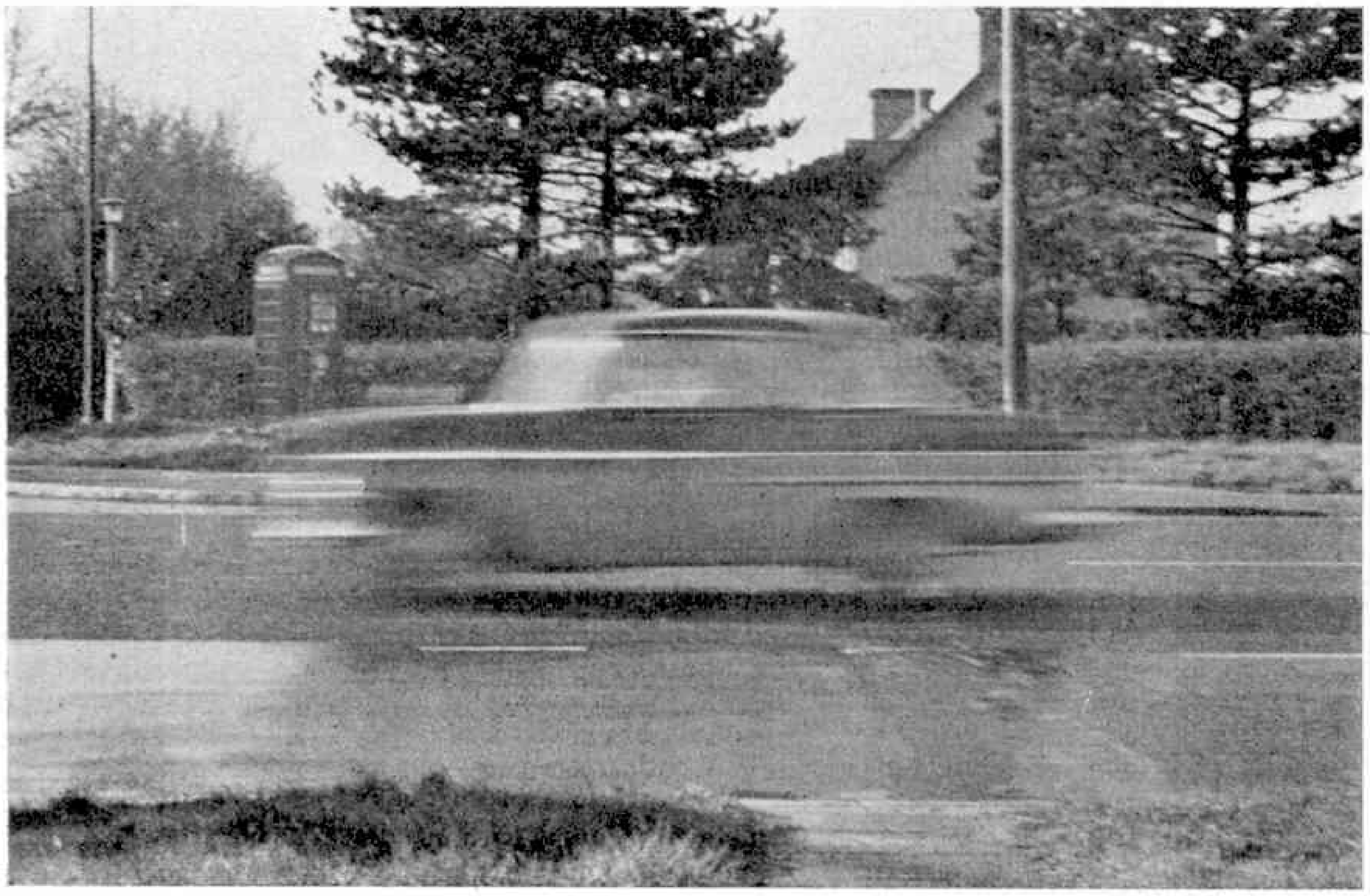
A photograph taken by "panning". Note the impression of speed.

ACTION pictures are exciting and can be very effective. They can also be very disappointing. In action photography, the subject is usually moving when the photograph is being taken. This means that while your shutter is open the image of the subject also moves over the film and will, therefore, be blurred in your picture. Just how much blurring occurs depends largely on how the photograph is taken. It is possible to keep blurring to a minimum and to make even very rapidly moving objects appear quite sharp in photographs.

In this, as in any other branch of photography, it is important to know the capabilities—and limitations—of your camera if you want to obtain the best possible results.

One way of reducing blur and "stopping" action is to use a fast shutter speed. Obviously, the shorter the time your shutter is open the less the image moves on the film. If your shutter is adjustable, then set it to the fastest possible speed if you want to stop movement. Many cameras, however, have a top shutter speed of about 1/100 of a second, and box type cameras usually have only one shutter speed of between 1/30 and 1/60 of a second. Yet, even these modest speeds are quite fast enough for a good deal of action photography, as long as you are careful to choose a viewpoint which gives the least possible image movement on the film.

Slow-moving cars and trains, people walking, working, even playing games, can be photographed with very little visible blurring if you bear in mind that a moving object causes the least movement on your film if you take it as it comes almost straight towards (or moves away from) your camera.



This is the sort of picture that you may get if you do not watch, closely, the points involved in photographing fast-moving objects.

In practice, it is best to take a slightly side-angled view, about 30 to 45 degrees, as this gives you a better and more interesting view of your subject. Remember that if the same subject crosses the field of view of your camera at right angles, then you need something like a four times faster shutter speed to give you the same degree of sharpness in the picture.

The further you are away from a moving object the less the blur on your film. It is important not to be too far away, however, because—as we saw last month—the main subject should always be kept a reasonable size in your picture; otherwise it becomes lost in the background.

Certain very fast moving subjects such as racing cars or aeroplanes can actually be photographed close up with a slow shutter speed, and still give a sharp picture. This is done by a trick called "panning". All you do is simply follow the subject with your camera while actually taking the picture.

To do this, hold the camera firmly. Locate the subject in the viewfinder while it is still some way off. Keep it centred in the viewfinder, swinging your body round smoothly from the hips to follow your subject. Press the shutter release as the subject moves directly past you, but keep up the smooth swing around; otherwise you may stop short before you actually press the release. The result is that the subject appears sharply defined against a very blurred background and a marvellous impression of speed is obtained.

It is not always necessary to stop all movement. Sometimes a certain amount of blurring is actually an advantage and gives a better idea of action than a perfectly sharp print. Some subjects, too, have a "dead point" where movement stops for a moment. A swing, for instance, stops momentarily

(*Cont. on page 266*)

WITH THE SECRETARY

Club and Branch News

MECCANO GUILD IS WORLD-WIDE

The Club reports summarised on this page present, with the illustration, striking proof of the truly international character of the Meccano Guild, as no less than six countries are represented. Some of these Clubs are thousands of miles apart, but all are linked by a mutual enthusiasm for Meccano model-building and everything for which the Meccano Guild stands.

CLUB NOTES

ASHTEAD FREE CHURCH M.C.—A very successful Exhibition held on April 29 was visited by between 100 and 150 people, of all ages. The Church Hall and a large room adjoining were filled with exhibits, which included a fine Meccano models display, and an impressive Hornby-Dublo layout belonging to Graham King and mounted on a large baseboard. It had sidings, a realistic fly-over, and embankments. A Gauge 0 layout with double tracks, crossover, etc., also was very popular. A Meccano "Aunt Sally", and a Meccano locomotive by David Dennis, both operated through "penny-in-the-slot" mechanisms, did good business. *Secretary:* Brian Mayes, 54 Newton Wood Road, Ashtead, Surrey.

NORTH END (PORTSMOUTH) M.C.—The Club's model battleship will be on view in a window of Messrs. Hargreaves (Sports) shop at North End, prior to a Club and Branch display at a Carnival Fête at Leigh Park. The Dinky Toys layout is being repainted for the event, and a recording of "railway noises", produced in the Club "studio" with a tape recorder, will be used during the operation of the Branch layouts at the Fête. *Leader:* Mr. A. J. Nicholson, 213 Sultan Road, Buckland, Portsmouth.

AUSTRALIA

MAYLANDS M.C.—Alan Vidler has built a Meccano grandfather clock which includes some novel improvements, and Warren Bransby a Meccano Nut and Bolt sorter which depends chiefly on a rocking tray to do the actual sorting. The Nuts fall through small slots in the tray, and a full tray of Nuts and Bolts can be sorted in a few minutes. Plans for the Club's 26th Anniversary party include a visit to a stage presentation of Walt Disney's *Snow White and the Seven Dwarfs*. While the members are at the play their parents will be preparing the party, and after that there will be games. It has been decided to introduce Chemistry as a Club activity. *Secretary:* Warren Bransby, 90 Crawford Road, Maylands, Western Australia.

INDIA

MYSORE M.C.—Mr. A. P. Krishna Murthy, B.Sc., who has been a member of the Club since 1956 and has a thorough knowledge of its working, has succeeded Mr. M. N. Radhakrishna as Secretary. Several new members have been enrolled. Everyone is busy preparing to celebrate the eighth anniversary of the Club. A film show at A.V.S. and Son's studios was well attended, and films loaned by British Overseas Airways Corporation, Bombay, were shown. In addition to model-building and film shows, other indoor activities being developed are games such as table tennis, chess and draughts. *Secretary:* Mr. A. P. Krishna Murthy, B.Sc., 955 "Srinivasa", Lakshmipuram, Mysore 4, India.

NEW ZEALAND

CHRISTCHURCH M.C.—A very high standard of model-building is maintained. During recent months the Club has staged good Meccano displays at two School Fairs—Riccarton High School and Addington School. Both displays earned high praise. The subject of one model-building meeting was *Bridges*, and types modelled included tower, suspension, lift, cantilever, swing and beam bridges. *Secretary:* David Archer, 33 Evesham Crescent, Spreydon, Christchurch, New Zealand.

NORTHERN NIGERIA

GINDIRI BOYS' SECONDARY SCHOOL M.C.—One of the two groups of members has been engaged in Meccano model-building while the other group has carried out Hornby Train operations. The groups combined, however, for the construction of a model of the Sydney Harbour Bridge. *Leader:* Mr. P. F. Bradford, Sudan United Missions, P.O. Barakin Ladi, via Jos, Northern Nigeria.

BRANCH NEWS

AVIARY MODEL RAILWAY CLUB—Improvements to the Branch layout include several embankments, and each baseboard now has a "rim" of wood beading resulting in a much neater appearance. The painting of several new roads, etc., has further improved the scenic effects. The new background scenes for both the Gauge 0 and 00 layouts, painted some months ago by the Club's artist are so effective that he has been awarded the Club's Cup for his good work. A quiz was held at one meeting, and questions asked on sport and other topical subjects. *Secretary:* J. Baker, 10 Salisbury Terrace, Leeds 12.

Part of the excellent display of Meccano models built by members of Cape Peninsula M.C., South Africa, and exhibited at Stuttaford's departmental store, Cape Town, as reported in last month's "M.M."

Among the Model-Builders

BY SPANNER

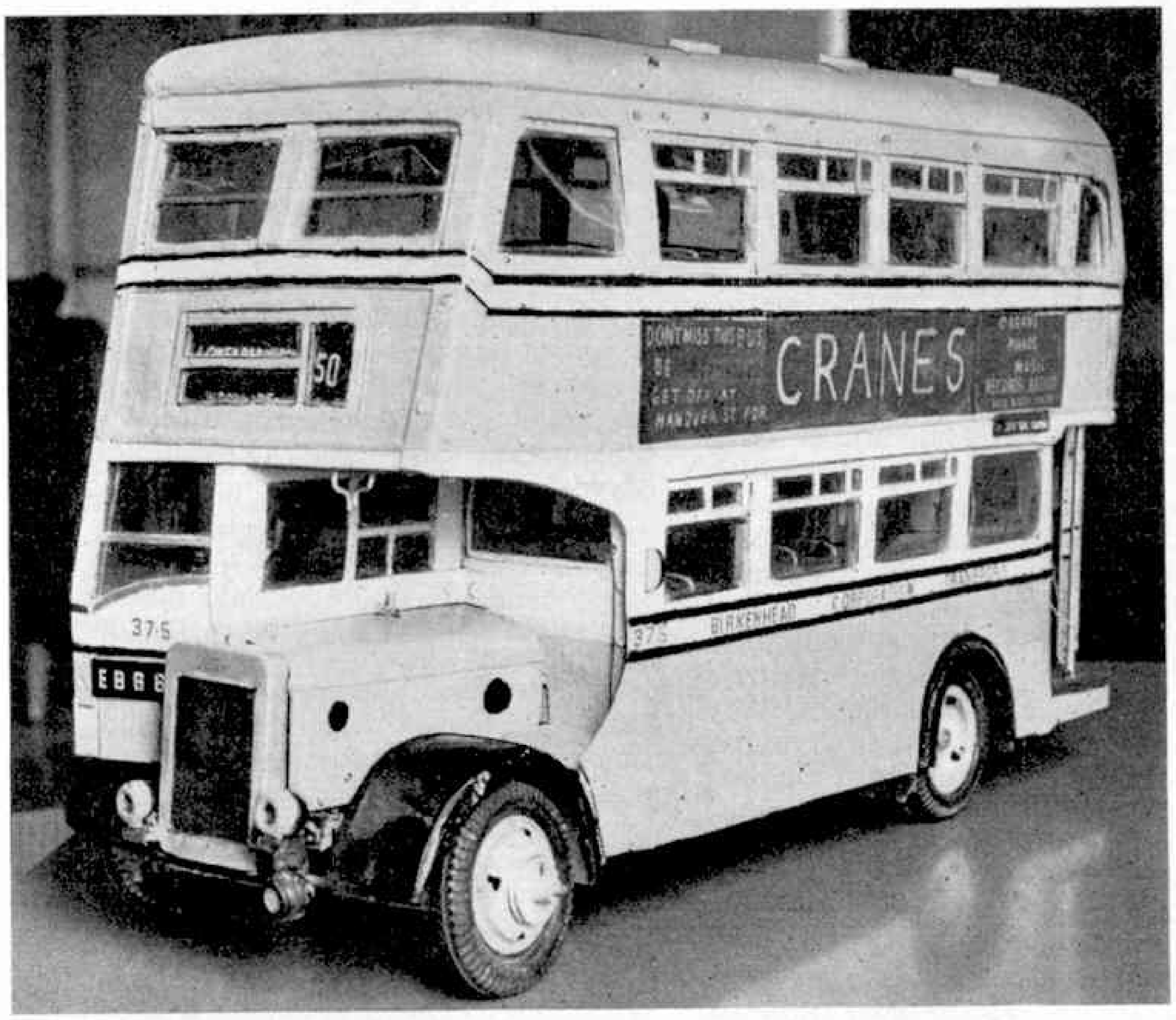
FINE BUS WITH A MECCANO CHASSIS

THE illustrations on this page show a fine hand-made model of a Guy Bus, based on one of a type owned by Birkenhead Corporation Passenger Transport Department. It was built by Mr. D. Nicholas, of Birkenhead, and represents many hours of painstaking work. The bus is built upon a Meccano chassis, seen in the underneath view, and the bodywork is constructed from sheet aluminium with wood veneer facings. The wheels are made from tin lids. The windows are glazed with Perspex, and the upper and lower decks are fitted with neatly-made modern type seats. Other attractive and realistically executed details can be seen in the illustrations.

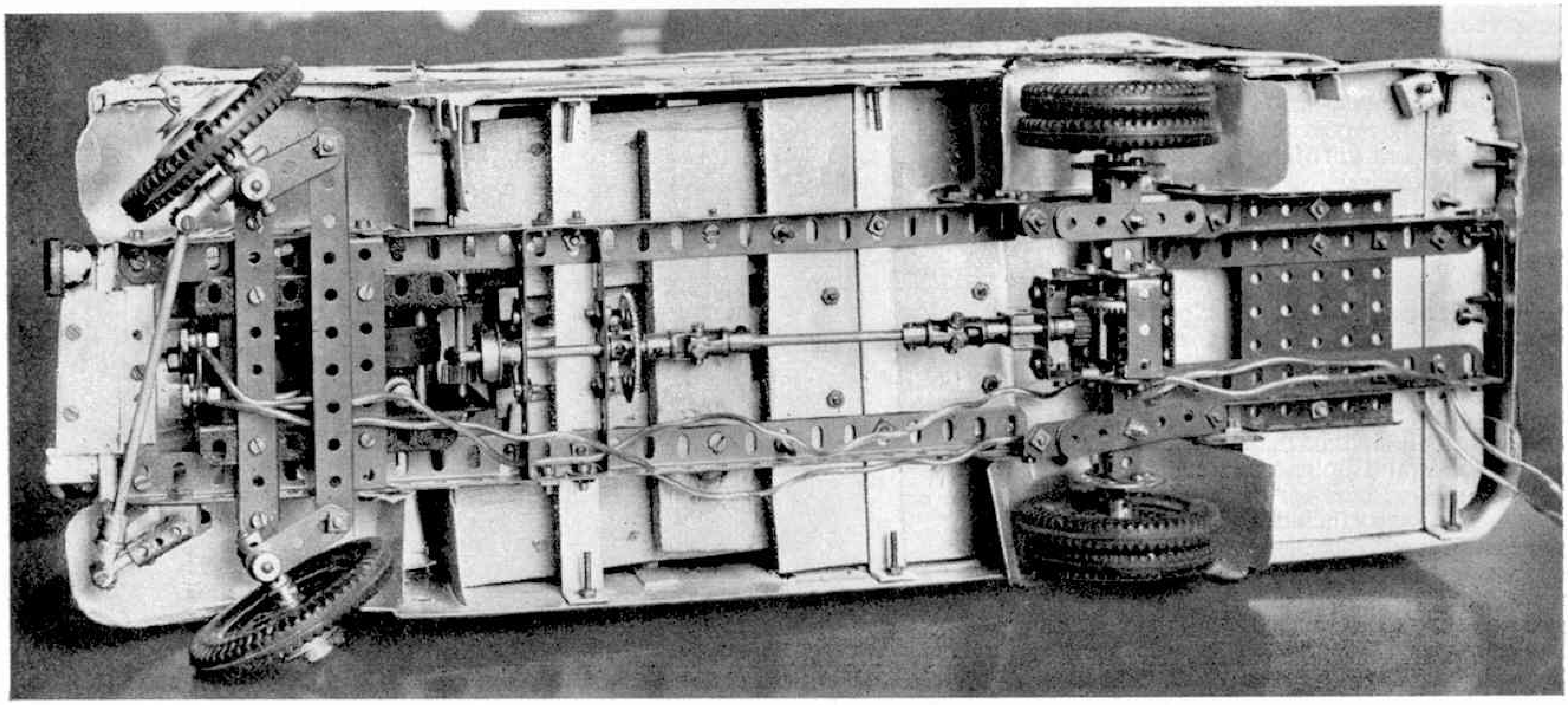
AN AUTOMATIC GEAR-CHANGE MECHANISM

This useful Meccano mechanism is shown in the lower illustration on the next page. The Rod on which the 1½″ Contrate Wheel 1 is mounted, is journalled in the Motor side-plates and is driven from the armature shaft through 3:1 ratio reduction gearing. A similar Contrate 2 is fixed on a Rod that is journalled in the gear-box, in such a manner that it is in line with the Rod carrying the Contrate 1. A Coupling, which holds a 1″ Rod in each of its ends, is then placed on the Rod, and a ½″ Pinion is mounted loosely on each 1″ Rod, the Pinions being held in place by Collars 3. The Contrates mesh with the Pinions and it should be noted that the Coupling is *free to rotate* about its Rod.

Fixed to the Rod that carries the

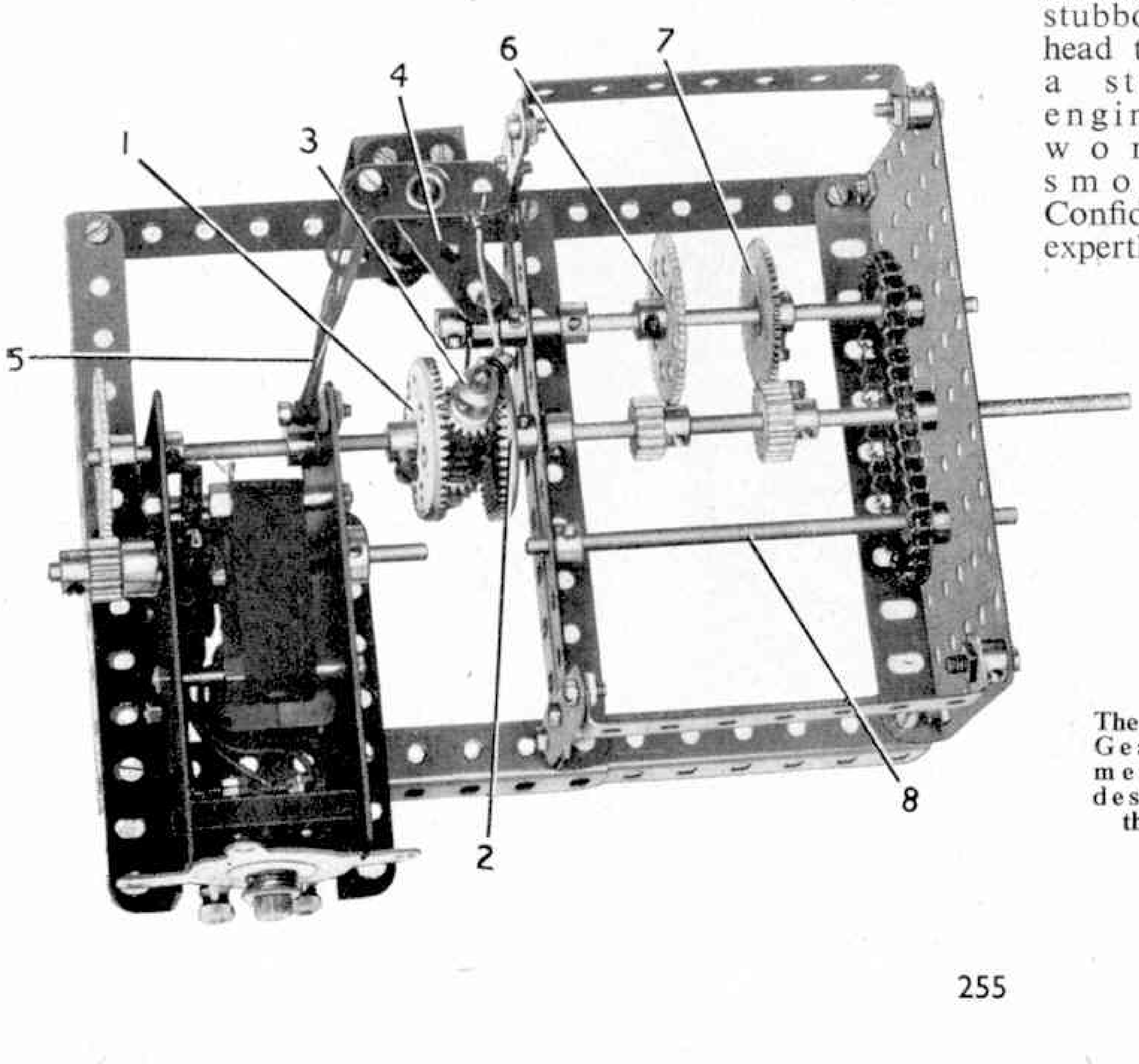


A fine model bus built by Mr. D. Nicholas, Birkenhead. It is fitted with a Meccano Chassis seen in the underneath view of the bus below.



Contrate 2 are a $\frac{3}{4}''$ and a $\frac{1}{2}''$ Pinion, which, in turn, engage with their respective gears 6 and 7 when the Rod on which the latter are secured is moved laterally in its bearings. A Crank 4 is fixed to a short vertical Rod that carries also two Double Arm Cranks. The latter are connected by short lengths of cord to the Collars 3, and the end of Crank 4 is fitted with a bolt, the shank of which engages between the Collars on the sliding shaft.

A short piece of elastic 5 is attached to the end of the upper Double Arm Crank and to the Motor, and normally keeps the $\frac{3}{4}''$ Pinion and 50-tooth Gear 7 in mesh. When the load thrown on the device increases, however, the Pinions tend to climb round the teeth of the Contrate 3, thus pulling the Crank 4 over against the action of the elastic 5 and causing the lower gear consisting of a 57-tooth Gear on the $\frac{1}{2}''$ Pinion to come into use. The drive from the gear-box can be transmitted by placing a 2″ Sprocket Wheel on the Rod 8, which is connected to the sliding Rod by Sprocket drive.

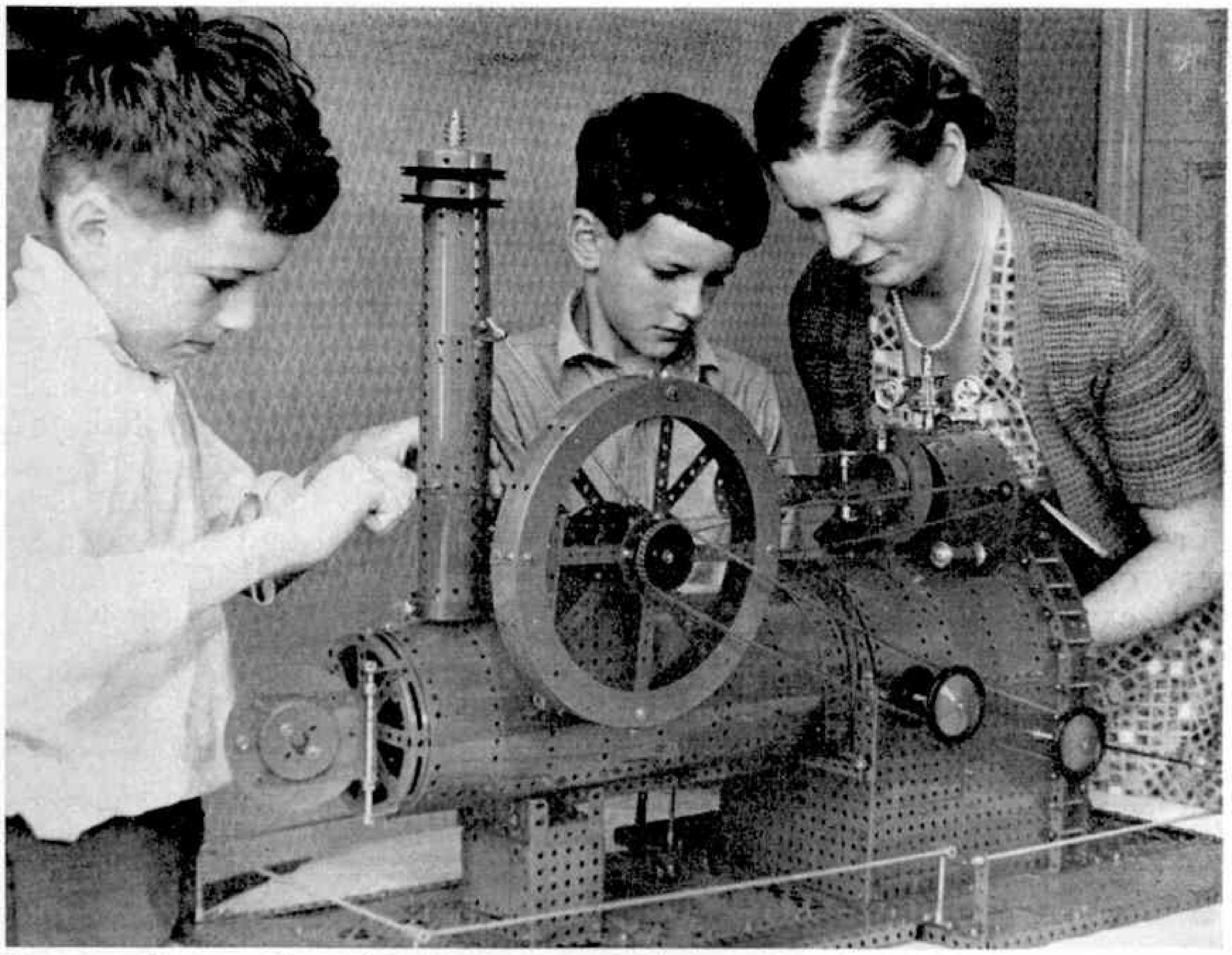


The Automatic Gear-Change mechanism, described on these pages.

* * * *

Family Meccano

Making large Meccano models can be and should be a family job. Little boys can learn much from watching Dad at work, and even more when he makes a mistake! It is on such occasions that Junior's fresh outlook and bright ideas often score over the more practical outlook of Dad, who remembers, with perhaps more obstinacy than accuracy, that he "did the job this way when he was a boy". Still younger boys can help by finding the Meccano parts, and thus pass, with all the satisfaction of being helpful, through the early apprenticeship stage of learning the names of the tools of their trade.



Mrs. Fry and her sons with one of the fine Meccano models in the construction of which all the family, including father, take part.

Youngsters know that fathers are notoriously short of staying power. When Dad has constructed one corner of a windmill, for instance, or one sail, he is tired, or has had enough for the time being—and that is when Youth comes to the rescue, and also learns from Experience.

Mum too has her part to play. She sees that the windmill stands well balanced like a dainty lady, and, as a true mechanical engineer, tackles also the serious problem of the stubborn cross-head that keeps a stationary engine from working smoothly. Confidently and expertly she deals with those silly masculine mistakes that make a Meccanograph produce, not designs, but squiggles; and so on.

In these days, when far too many pastimes are passive and call for little effort from their followers, Meccano provides a fascinating and constructive hobby both for the individual and the team. It matters little whether the team is the school form, the Youth Club, or the family; the joint effort is healthy, and at the same time the individual has plenty of scope for his ingenuity. A case of "one for all, and all for one".

ROLAND FRY

Talyllyn Railway

The Talyllyn Railway, with its narrow gauge track from Towyn to Abergynolwyn, and a unique record in having maintained a continuous public service for some 90 years, has issued some new publicity items for the 1961 season. These include the timetable from May 20 to September 30 inclusive, costing 1d., and showing a further increase in the train service.

The official guide, at 1/–, has been brought up to date and includes some new illustrations. There are also further additions to the range of coloured cards at 6d. each, and photographic cards at 4d. each, and there is news, too, of other items of a souvenir nature that can be bought at Towyn by visitors to the line. The new timetable, guide and cards can be obtained from the Publicity Director of the Talyllyn Railway Preservation Society, Mr. R. K. Cope, "Brynglas", Beckman Road, Pedmore, Stourbridge, Worcs.

BUILD THIS FINE MODEL

Meccano Roundabout

FAIRGROUNDS are a plentiful source of ideas for the keen Meccano model-builder. At one time they consisted almost entirely of roundabouts and side-shows, but very often nowadays other novel and exciting mechanical contrivances contribute to the "fun of the Fair", ensuring a great variety of thrills. But the traditional roundabout is far from being ousted, and an excellent Meccano model of one, which can be built from Outfit No. 7, was described and illustrated in the March 1961 *M.M.* Here is another, this time for Outfit No. 8.

One side of the base of the Roundabout shown in Fig. 1. is a 12½″ × 2½″ Strip Plate, and the other side and back are each formed by one 2½″ × 2½″ and two 5½″ × 2½″ Flexible Plates. The sides are strengthened by 12½″ Angle Girders and 2½″ Strips 2, and the front corners are connected by 12½″ Angle Girders 3 and 4. Two 12½″ Angle Girders are bolted across the top of the base and a 5½″ × 2½″ Flanged Plate 6 is fixed to them. The top is completed by two 12½″ × 2½″ Strip Plates 7, and by Flexible Plates of various sizes arranged as shown.

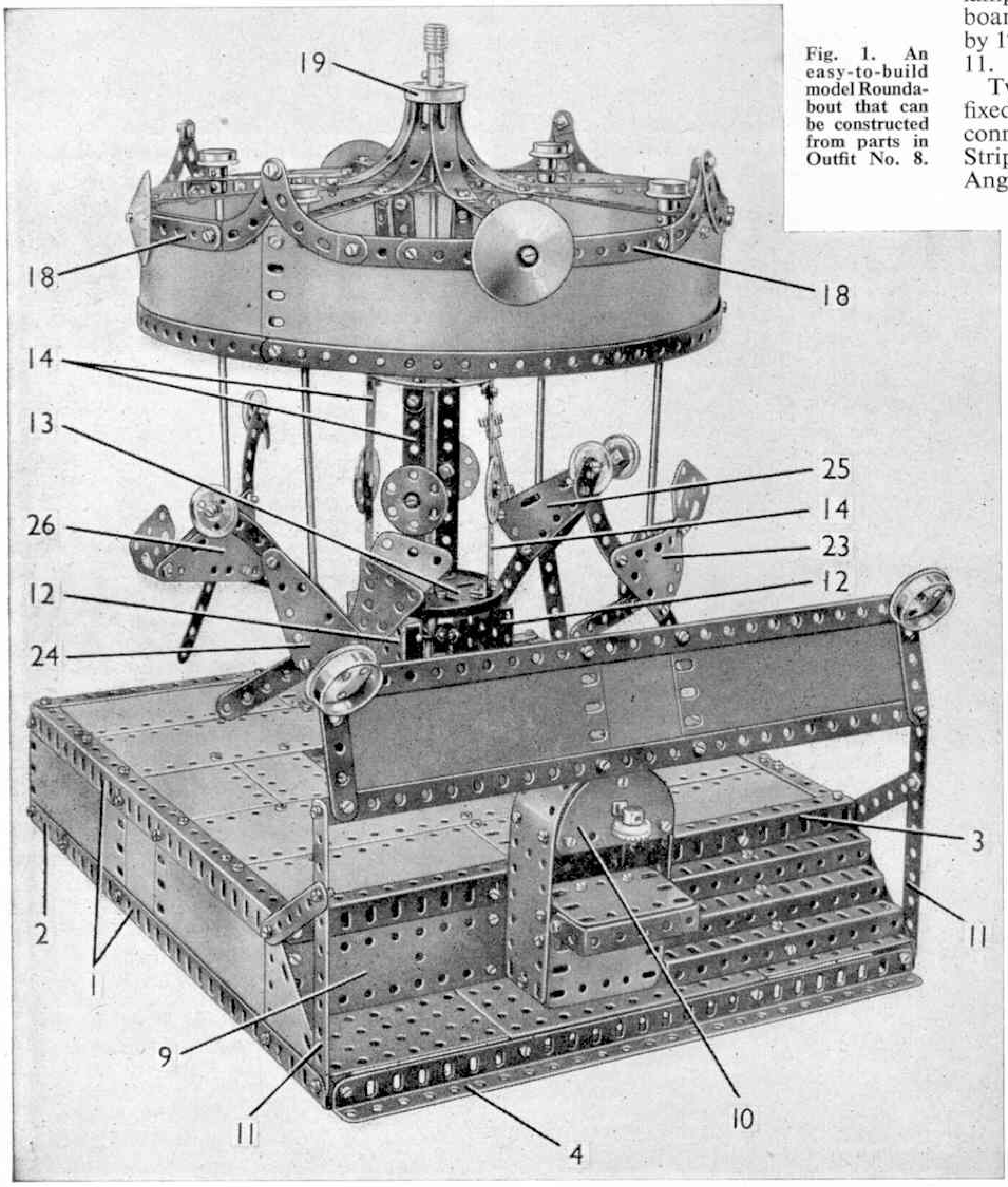


Fig. 1. An easy-to-build model Roundabout that can be constructed from parts in Outfit No. 8.

A 5½″ × 2½″ Flanged Plate and two 3½″ × 2½″ Flanged Plates 8 are fixed to the front of the base, and a 5½″ × 1½″ Flexible Plate 9 is bolted to two vertical 2″ Strips. The 5½″ Angle Girders that form the steps are attached to two ½″ Reversed Angle Brackets.

The Semi-Circular Plate 10 forming the top front of the pay-box, and a similar part at the back of it, are fixed to 2½″ × ½″ Double Angle Strips bolted between the sides. The ¾″ Contrate that represents a lamp is screwed on to a ½″ Bolt. The name board over the entrance steps is attached by 1″ × ½″ Angle Brackets to two 5½″ Strips 11.

Two 3½″ × 2½″ Flanged Plates 12 are fixed to the Flanged Plate 6 and are connected by two 2½″ × ½″ Double Angle Strips. The 4½″ Strips 14 are attached by Angle Brackets to a 3″ Pulley 13 and to a Face Plate 15. The Pulley 13 is bolted to the Plates 12.

Four 3½″ Strips 16 are connected by Angle Brackets to a Bush Wheel and to a Face Plate 17 that carries eight 5½″ Strips arranged radially. The rim of the canopy is made from three 12½″ × 2½″ Strip Plates and is attached to the radial 5½″ Strips by Angle Brackets. Each of the built-up strips 18 is made from a 5½″ and a 1½″ Strip. The pinnacle at the centre of the canopy is capped by a 1⅛″ Flanged Wheel 19. The canopy is fixed to an 11½″ Rod 20 that passes freely through the Pulley 13.

The model can be driven either by hand or from an Electric Motor, whichever may be desired. If driven by Motor, the latter can be bolted under the base and connected by a driving band to a 1½″ Pulley on the 3½″ Rod 21. A Worm fitted on this Rod should be arranged to drive a 57-tooth Gear 22, fixed on a 4″ Rod joined to the Rod 20 by a Coupling.

For hand drive the Rod 21, should be extended through the side of the base and fitted with a handwheel.

The body of the bird 23 is made from two 2½″ × 2″ Triangular Flexible Plates joined at their lower corners by a Double Bracket. The legs are 2½″ Strips, the tail is a Flat Trunnion, and the head is a 1″ loose Pulley attached to a 2½″ Curved Strip. The beak is a Fishplate.

The body of the bird 24 is formed by two 2½″ × 1½″ Triangular Flexible

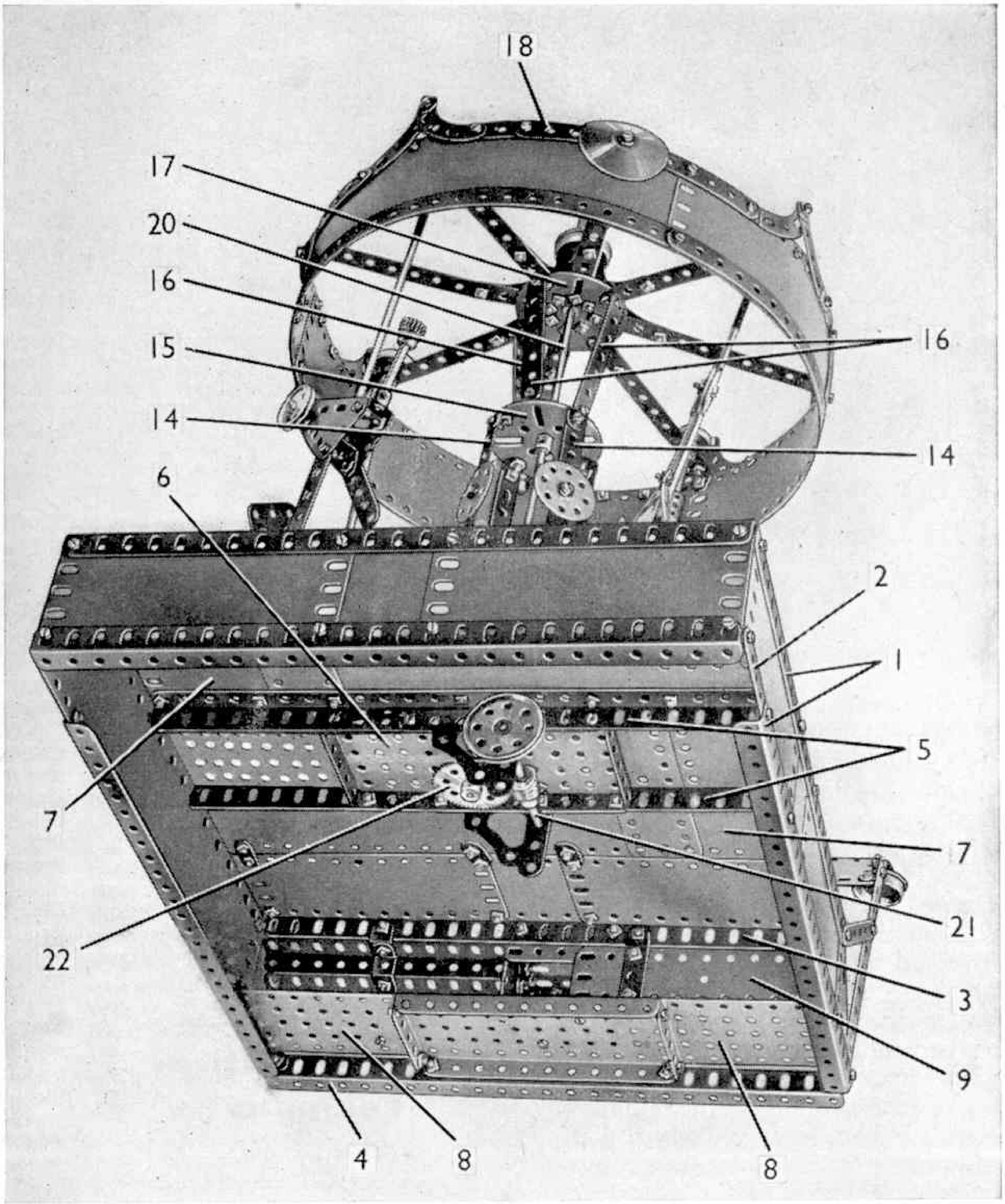


Fig. 2.
Inside the base of the Roundabout. The model can be arranged for either hand or motor drive as desired.

Plates connected at their lower corners by a Double Bracket. The tail consists of two further 2½″ × 1½″ Triangular Flexible Plates, and the head is a 1″ loose Pulley supported by a 2½″ Curved Strip. The legs are 2½″ Strips.

The bird 25 is made by connecting together two 3½″ × 1½″ Triangular Flexible Plates at their lower corners by means of a Double Bracket. The head is a 1″ loose Pulley fixed to the top corners of the Plates, and the tail is a ½″ Pinion held on a 2″ Rod supported in a large Fork Piece. The legs are 2½″ Strips.

The body of the bird 26 consists of two 3½″ × 2″ Triangular Flexible Plates and these also are connected by a Double Bracket. The legs are 2½″ Strips and the tail is a Flat Trunnion. The head is a 1″ loose Pulley supported by a 2½″ Curved Strip, and the beak is a Pawl without boss.

Three of the birds are supported by 6½″ Rods extended by 2″ Rods, and the fourth is mounted on an 8″ Rod. The 6½″ and 2″ Rods are connected together by a Coupling and two Rod Connectors. Each of the supporting Rods is held by Spring Clips in the Double Bracket placed between the Triangular Flexible Plates that form the bodies of the birds. The upper end of each Rod is held by a ¾″ Flanged Wheel and a Collar in one of the 5½″ Strips bolted to the Face Plate 17.

Parts required to build the model Roundabout: 5 of No. 1; 14 of No. 2; 4 of No. 2a; 4 of No. 3; 4 of No. 4; 10 of No. 5; 2 of No. 6; 4 of No. 6a; 10 of No. 8; 3 of No. 9; 7 of No. 10; 4 of No. 11; 32 of No. 12; 2 of No. 12a; 2 of No. 12b; 2 of No. 12c; 1 of No. 13; 1 of No. 13a; 3 of No. 14; 1 of No. 15b; 1 of No. 16; 4 of No. 17; 1 of No. 19b; 3 of No. 20; 4 of No. 20b; 1 of No. 21; 4 of No. 22a; 1 of No. 24; 2 of No. 24a; 2 of No. 24c; 1 of No. 26; 1 of No. 27a; 1 of No. 29; 2 of No. 32; 4 of No. 35; 268 of No. 37a; 260 of No. 37b; 14 of No. 38; 1 of No. 46; 1 of No. 48; 7 of No. 48a; 2 of No. 51; 2 of No. 52; 4 of No. 53; 5 of No. 59; 2 of No. 63; 3 of No. 90; 8 of No. 90a; 2 of No. 108; 2 of No. 109; 6 of No. 111a; 5 of No. 111c; 1 of No. 116; 2 of No. 125; 2 of No. 126a; 1 of No. 147c; 1 of No. 186b; 4 of No. 187a; 2 of No. 188; 5 of No. 189; 8 of No. 190; 2 of No. 191; 10 of No. 192; 6 of No. 197; 2 of No. 213; 2 of No. 214; 8 of No. 215; 4 of No. 221; 2 of No. 222; 2 of No. 223; 2 of No. 224; 2 of No. 225.

* * *

A BRIDGE STORY

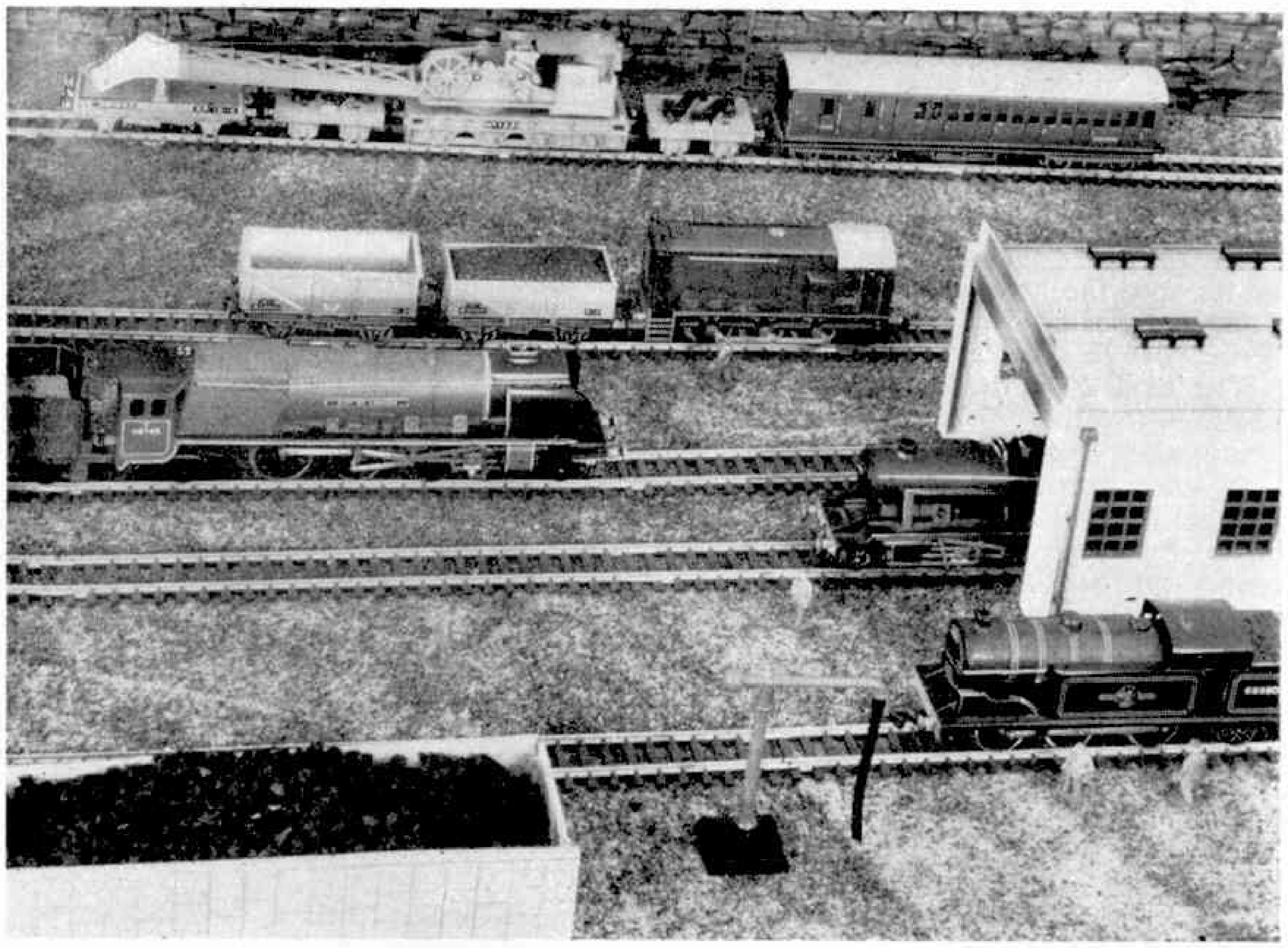
Over the last few years the Western Region of British Railways, which uses and maintains 12,695 bridges, has reconstructed a bridge nearly once a week: 48 in 1958, 41 in 1959, 50 in 1960.

Each bridge has a life and each life has to be renewed by giving the bridge a new superstructure. The most involved job is rebuilding bridges carrying tracks over roads. There are more than 7,700 of them, and on a heavily-worked section, such as that between Paddington and Reading, which carries about 500 trains every 24 hours, the renewal of a bridge spanning a road which must be widened at the same time poses such questions as, "How much time have we got?" and "How can we do the job *in* that time?" These in turn produce a chain reaction of planning which brings in almost every railway department.

If possible, every reconstruction is planned for the winter months, because there are fewer trains then and the crucial stages of removing the track are planned for weekends. So, the moment the last train on Saturday night crosses the site (it may be early Sunday morning) the work of renewal begins. And it has to be finished before the arrival of the first train on Monday morning!

Winter and darkness produce difficulties of their own. There may be cranes on each side of the bridge: behind the cranes and on the adjoining track there are ballast trains, Engineer's trains, strings of wagons loaded with equipment. The only area of light is near the bridge itself, but the gangs still go on even in the worst conditions. They are expert men, and for them to exceed the planned occupation time is hardly known.

KIT BUILDING AND RAILWAY STAFF



YOU will see in the Hornby-Dublo scene pictured above that I have included the two-road engine shed that can be assembled from the standard Engine Shed Kit. Those of you without previous experience of the different Hornby-Dublo Kits for lineside buildings and so on may wonder what is involved in assembling the components. Actually nothing could be more simple, and complete easy-to-follow instructions—with clear views of the different sections—are included in all the building Kits. When you get your Kit, examine the various parts and compare them with the diagrams, and it is a good idea to have what I call a "dummy run" before actual erection, just to see how the pieces fit together.

Don't forget what I wrote last month about the screws that are intended to fit in the threaded bushes incorporated in certain of the components. These screws can with advantage be entered into the bushes and then removed again before actual building is begun. This helps to relieve any tightness by opening out the bushes slightly, thus ensuring that the screws fit readily when your engine shed, station or other model is erected.

By their consistency in design and appearance the buildings assembled from Hornby-Dublo Kits help to give your railway a neat and well-finished look. They have their practical uses, too, because the stations form the only places where you can reasonably start your trains or where they can complete their journeys. Some Hornby-Dublo owners are so enthusiastic about running their trains that they tend to forget that stations are the places where trains can stop. A well-arranged operating programme therefore does not consist merely of a succession of long-distance expresses, but includes suburban services, with frequent station stops, and several trains of longer-distance character making halts at important intermediate points.

Hornby Railway Company

By the Secretary

The purpose of an engine shed is obvious from its name, and the miniature building erected from the standard Kit forms a very useful place in which your locomotives can live when they are not actually in traffic. Possibly the standard two-road building will be sufficient for your needs, but if not there is always the Extension Kit that can be used for building up the original shed into a four-road, or even a six-road, affair. Such extension will depend largely, of course, upon the amount of space that you have available for this sort of thing, and the number of engines that require accommodation.

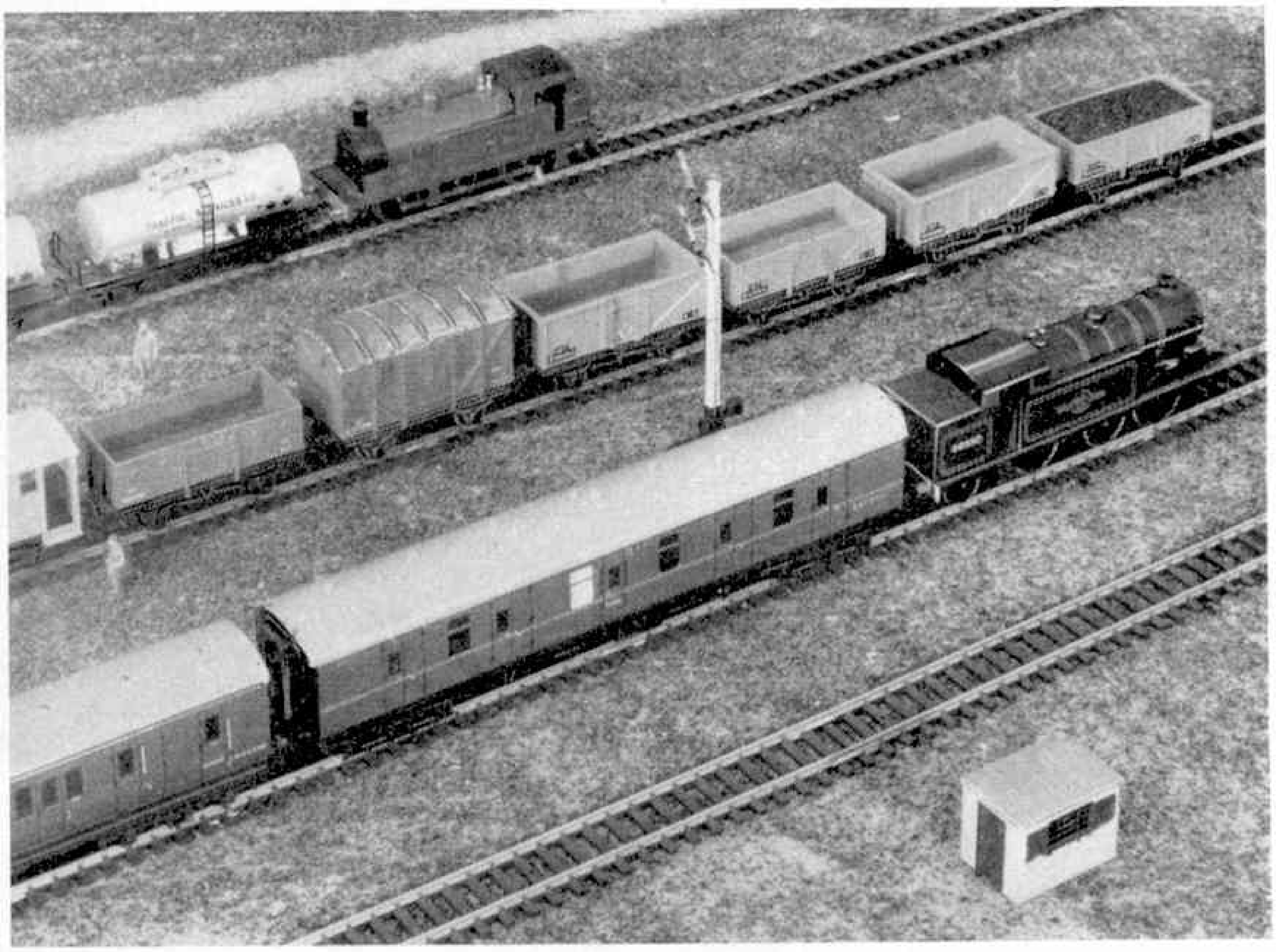
On Three-Rail layouts a shed can be used effectively in conjunction with a Hornby-Dublo Turntable, and various schemes including these two items have been dealt with in these pages. Many readers' layouts, too, described by "Layout Man", have featured interesting combined shed and turntable schemes.

Various other items can be used in conjunction with the engine shed. There is, for instance, the Hornby-Dublo Water Crane, which is necessary for steam or diesel types. In addition, the attractive little Platelayers' Hut can be used to represent one or other of the small huts or offices for various purposes that are often found dotted about railway premises. A motive power depot also provides some excellent opportunities for using the miniature figures of railway staff listed as Dublo Dinky Toys No. 050. Certainly Engine Driver and Locomotive Fitter should be in evidence, and there will be no harm in employing also the Ganger and the Lengthman. Similarly, the Examiner—who is really intended for carriage and wagon work—could also be used for duty at the engine shed. Normally the other figures, representing different uniformed grades, would not be seen about shed premises, although a Guard should appear if your Breakdown Crane is called out. On the other hand, the uniformed staff will be necessary on the platforms of any passenger station, and some of them can be used at the goods depot and in the goods yard as well.

It is remarkable how much these attractive little people contribute toward the "life" of the railway. Their attitudes are natural and realistic—which is not surprising, as they were modelled on actual railwaymen who entered thoroughly into the spirit of the thing when their individual photographs were taken to

Above is an effective scene on a Hornby-Dublo Two-Rail layout, showing the shed that can be built up from the standard Engine Shed Kit. Steam and Diesel Locomotives are quartered here, and the Breakdown Crane in the background completes the scene.

The Hornby-Dublo 0-6-2 Tank heads along the main line with a stopping train. The vehicle next to the engine is a Passenger Brake Van, no doubt here used for parcels traffic.



form the basis of these fascinating miniatures.

Thus the Engine Driver, a well-built man, is making his unhurried way towards his engine, sponge cloth in hand and, typically, with his jacket fastened at the top button only. There will almost always be several of his type coming and going round about your engine shed. The Locomotive Fitter, like several of the other figures, is modelled holding something that suggests his calling, quite apart from the fact that he is dressed in a boiler suit and is equipped with fitter's lamp and battery box. His right hand grasps a brake spanner, a tool of formidable proportions needed when brake adjustment on an engine is one of the things to which he has to attend.

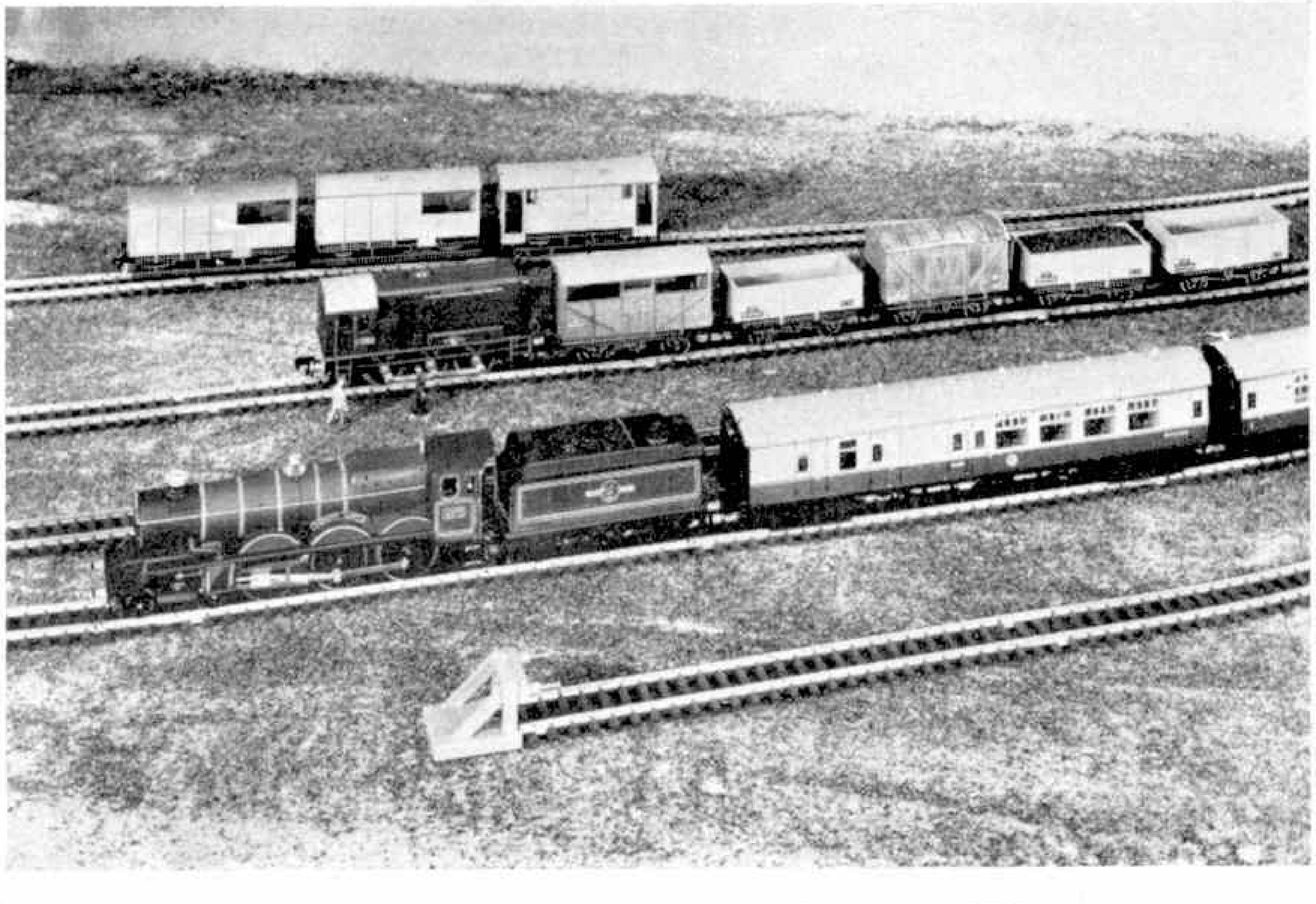
The permanent way Ganger is standing in a characteristic attitude, with his long-handled hammer resting on the ground. Perhaps he is viewing the track, or possibly he is simply eyeing a passing train—it all depends where you put him on the layout. His assistant, the Lengthman, has a broad-bladed shovel of the kind that he needs when tidying the track ballast and doing the many other jobs on the line that fall to him. In an engine shed scene he could represent a shed labourer, one of whose tasks will be to keep the engine pits clear of ashes, and so on. The Carriage and Wagon Examiner is shouldering his wheel-tapping hammer, while he also holds the powerful inspection lamp often needed in his duties. If you look at him through a magnifying glass you will see that he has a short spanner tucked into one of his overall jacket pockets. A lot of unsuspected detail of a similar nature can be discovered if your put your miniature figures "under the glass" in this way.

Of the uniformed grades, the Station Master is a dignified figure obviously in charge of things, while the Porter is a busy person who is clearly earning his money, being loaded with a suitcase in each hand and a holdall under his arm. The Ticket Collector is smart and alert, one hand outstretched to take tickets, while in the other are the nippers with which to clip them. The Passenger Guard is in action, with his whistle raised to his mouth as he gives the *Right Away* signal with his green flag held aloft. He is leaning slightly as he does so, to make sure that the driver up in the front sees the flag. The corresponding Goods Guard has no flag, but instead he carries a guard's lamp.

Finally, we have the two Policemen, both solid dependable types, one with his hands held behind his back just keeping an eye on things, while the other, with white gloves and arms outstretched, is ideal for road traffic duty outside your station or at any suitable point on the lineside road system.

I referred earlier on to the Breakdown Crane. The inclusion of this fine Hornby-Dublo model in our shed scene on the previous page is a reminder that a full-size crane of this type is invariably kept at a motive power depot, and—except for the guard—the crew of the train is made up of members of the staff belonging there. In our picture you will notice that in addition to the Crane itself, with its relieving bogies and the Match Truck, a Brake/second Suburban Coach is marshalled with the Crane to provide accommodation for the breakdown gang. As has been suggested in these pages, you could add one or two ordinary Vans to represent vehicles used in a real breakdown train for carrying the numerous items of miscellaneous equipment forming part of the breakdown gear.

When assembling your breakdown train, you may wonder about the order in which to marshal the different items. The Crane itself can run next to the engine, although one Region at least makes a practice of placing it in the centre of the breakdown train formation. No doubt Hornby-Dublo railway owners will follow whichever scheme suits their layouts best. The position of the siding for the Breakdown Crane in relation to the rest of the layout will have some bearing on the matter.



Away to the West, in miniature, goes the Hornby-Dublo "Cardiff Castle" with a train of Corridor Coaches in W.R. livery. Beyond the main line a Diesel Shunting Locomotive is busy in the sidings.

WELL-ENGINEERED SYSTEM

BY LAYOUT MAN

THIS month our pictures show layouts that are situated respectively in Lancashire and in Yorkshire, that appearing in the two larger illustrations being the Three-Rail system of J. R. Briggs, H.R.C. No. 140972, of Blackburn. Details of this reached me a little while ago. With the aid of his father this enthusiast has been able to build up a fine two-level railway that has been in course of development for some twelve years, and I am sure you will like to know something about it.

With its sweeping curves and its well-engineered gradients leading to the high-level section, this layout constructed by our Blackburn friends is a good example of what can be done where a generous amount of space can be allocated to a Hornby-Dublo railway. Needless to say, the layout has not always been so extensive, as operations were begun, in what I have come to regard as the standard manner, with a Hornby-Dublo Train Set and certain additions laid out on the floor.

As all of you know, floor conditions are not ideal for 00 gauge trains and it was soon decided to make a change, and to set up a layout on a baseboard. At this stage, a separate, small room became available for layout purposes and here five successive layouts were built up, each one more comprehensive than its predecessor. Eventually, the system reached the limit of possible extension in the space available, but fortunately a move to another, larger, room became possible. Some of the results of this move you can see in the illustration below, and at the top of the next page.

Although the layout can be described as being basically "L" shaped, in the sense that the baseboard structure follows this rather than the more usual rectangular form, a double-track continuous main line is available almost throughout. In actual fact there are about 350 feet of track making up the complete system. The baseboard-level and the high-level tracks are complete in themselves and trains can run continuously on either if required. Pleasing variety is given to the operating programme, however, by arranging for train movements between the tracks at the two levels, as stations are situated on both.

The system as a whole is centred on the main station known as *Layton*, at baseboard level. This has six platform faces including a terminal bay. The last-named is used for trains beginning what are regarded as southbound journeys. In addition to four platforms for main line operations there is another for suburban traffic and general purposes. Each of the tracks serving these platform faces can be isolated electrically so that trains ready made up can be held there while waiting their turn to move.

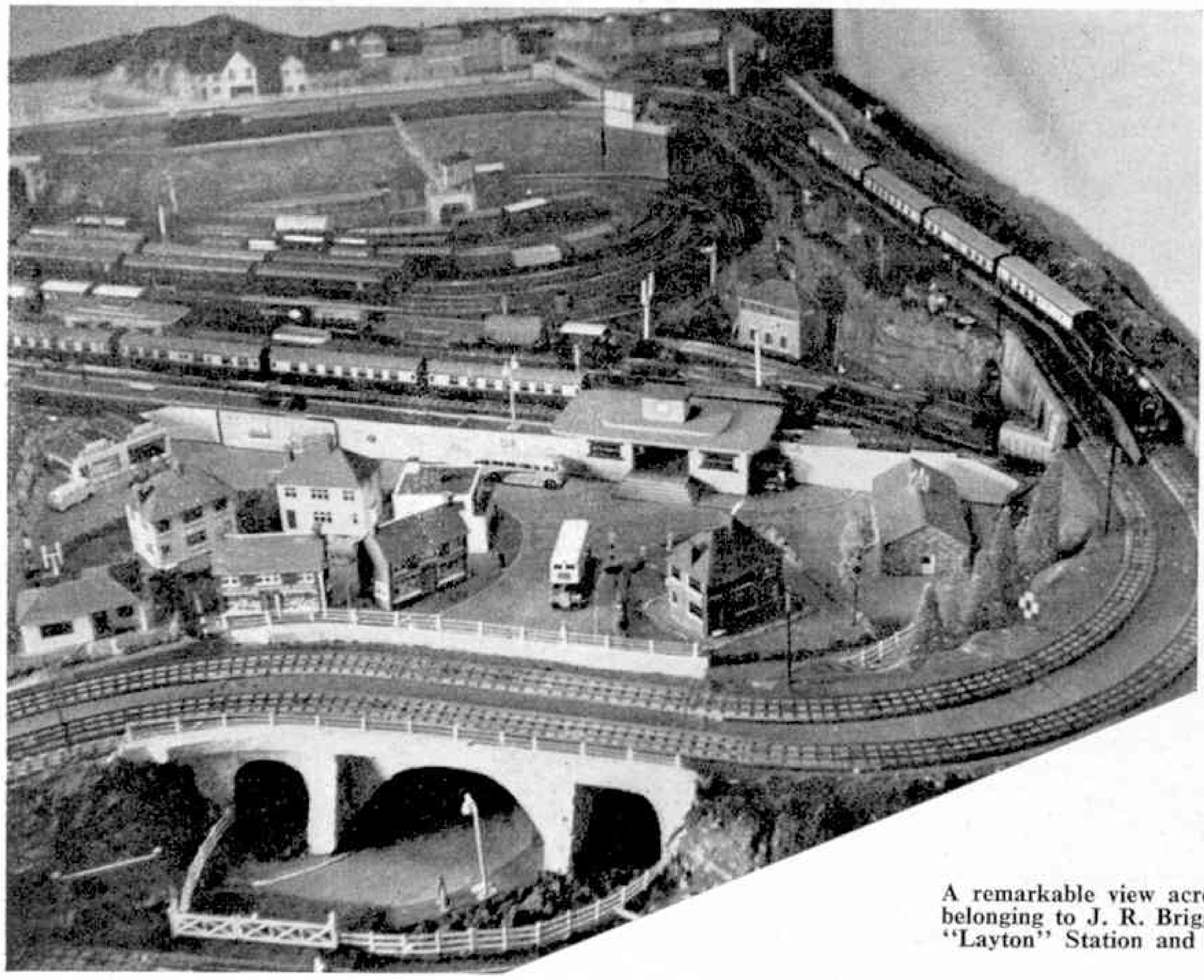
Beyond the *Layton* platforms is a series of goods sidings, and the whole of the yard so formed is enclosed within a single-track "there-and-back" loop which is connected to the running lines in such a way that incoming freight trains from the north can be reversed complete by moving them round this circular line on arrival. They are then in a position for the wagons to be shunted back into the yard itself.

Double junction

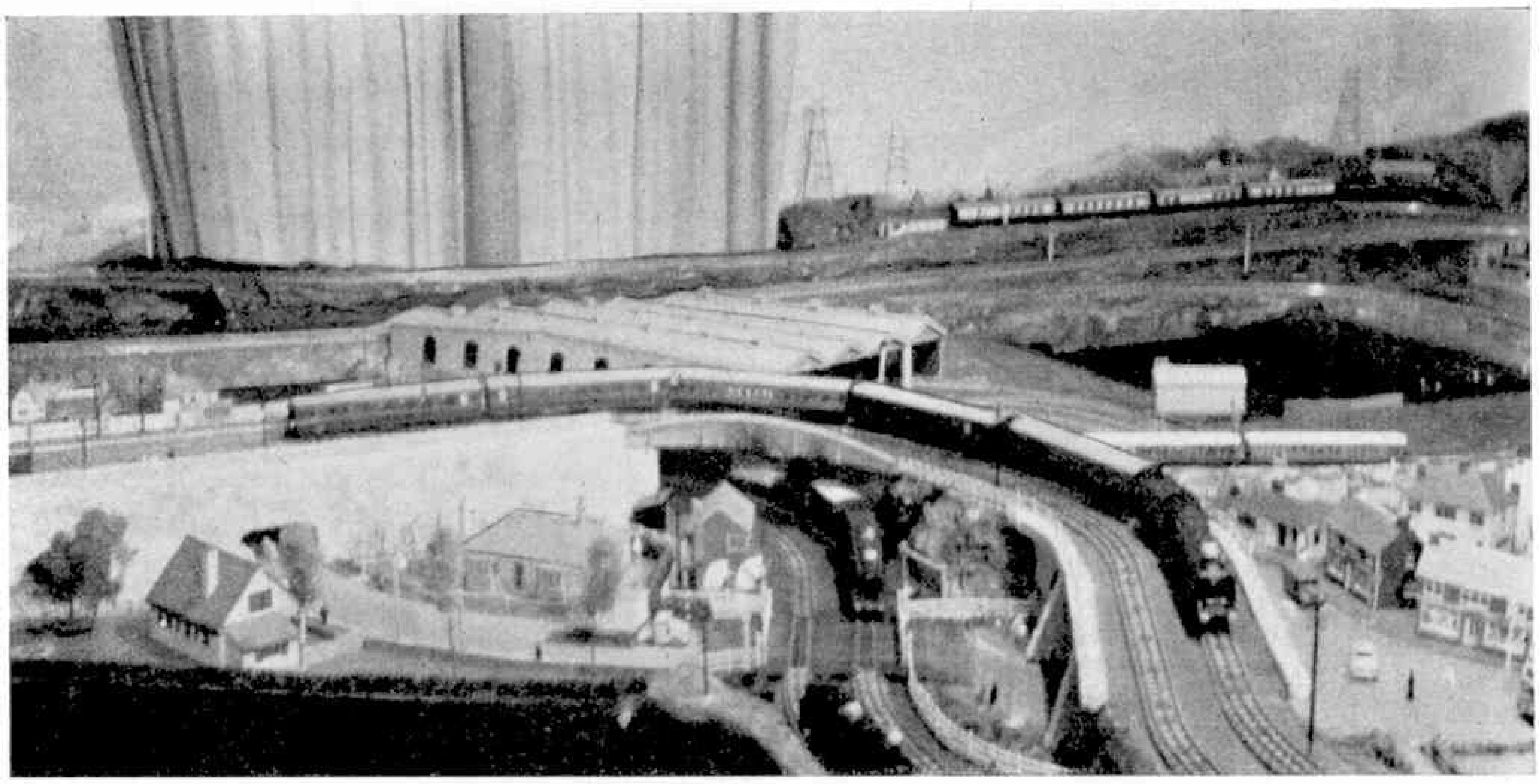
From the north end of *Layton* Station the line curves almost continuously in the form of an elongated "S" to reach *Springvale*, a simple two-platform station, beyond which is a tunnel. The track for through running at baseboard-level continues on its way round the board and, after passing through a further tunnel, curves round and again comes into *Layton*, at the south end. Between the two tunnels is a double junction leading to an ascending gradient section by means of which the high-level track is reached. The gradient section actually runs parallel to the course of the baseboard track and the high-level line as a whole follows a path roughly corresponding to that of the baseboard main line.

There are three stations on the high-level section, one known as *Maydale*, the second as *Corfe Bay*, and the third, *Tor Hall*. The last-named is actually parallel to, and just above, *Springvale*, on the baseboard main line. *Corfe Bay*, similarly above *Layton*, has three platform faces, two alongside the main lines and the third for northbound stopping trains. The high-level main line is carried over the baseboard-level track at two places, one immediately south of *Layton* and the other near *Springvale*, and the manner in which the two levels pursue their individual winding courses hereabouts is one of the many attractive features of the layout, as will be realised from the two photographs.

Near *Tor Hall*, in a position exactly corresponding with that of the junction on the baseboard-level track, the high-level



A remarkable view across one end of the Hornby-Dublo layout, belonging to J. R. Briggs, of Blackburn, described in this article. "Layton" Station and its yard are in the centre of the picture.



Another view of the Briggs layout, featuring prominently the reverse-curve sections of high-level and baseboard-level tracks.

line also throws off a branch leading to a descending gradient which finally rejoins the baseboard-level track near the south end of *Layton* Station. So the two gradient sections, in fact, run alongside each other, which is an unusual feature. Wisely, the slopes have been confined to straight track, well clear of any curves or Points. Only the generous amount of space available for the layout has made this possible, but the arrangement is of very great benefit to the locomotives, which have no difficulty in managing quite respectable train loads over the incline sections.

Twelve engines

Near *Layton* Station is situated an extensive motive power depot served by a Hornby-Dublo Turntable. Here the various Hornby-Dublo Locomotives belonging to the railway are accommodated, with the exception of one that is outstationed in a small shed at *Corfe Bay* on the high-level section. There are twelve engines altogether, including examples of the two earliest Hornby-Dublo 4–6–2s, respectively L.M.S. *Duchess of Atholl* and L.N.E.R. *Sir Nigel Gresley*. The later Pacifics are represented by *Duchess of Montrose*, *Silver King* and *Mallard*, the double chimney characteristic of the last-mentioned forming an interesting variation from the single-chimney design of the two earlier A4s. All these engines are confined to express passenger duties, but the others, including *Bristol Castle* and an 8F 2–8–0, are found in freight service as well as other duties. As passenger train formations are fairly heavy, the 2–8–0 and a Bo-Bo Diesel are favourites for working the empty stock between *Layton* Station and the carriage sidings.

A B.R. 2–6–4 Tank is used mainly on goods traffic while the several 0–6–2 Tanks, in addition to doing the yard shunting, take local and long-distance freights as well as suburban passenger trains. These locomotives do, in fact, tend to be the handiest general-service engines on the line.

There are some 30 coaches for making up the passenger trains, of which the principal expresses are formed of vehicles in B.R. red and cream livery. There is maroon and L.N.E.R.-type, teak-coloured stock as well, the latter dating back to the time of the original *Sir Nigel Gresley* Locomotive. Restaurant Cars in the appropriate liveries are provided for service in the B.R. red and cream formation, and for use with the train of stock in W.R. finish respectively.

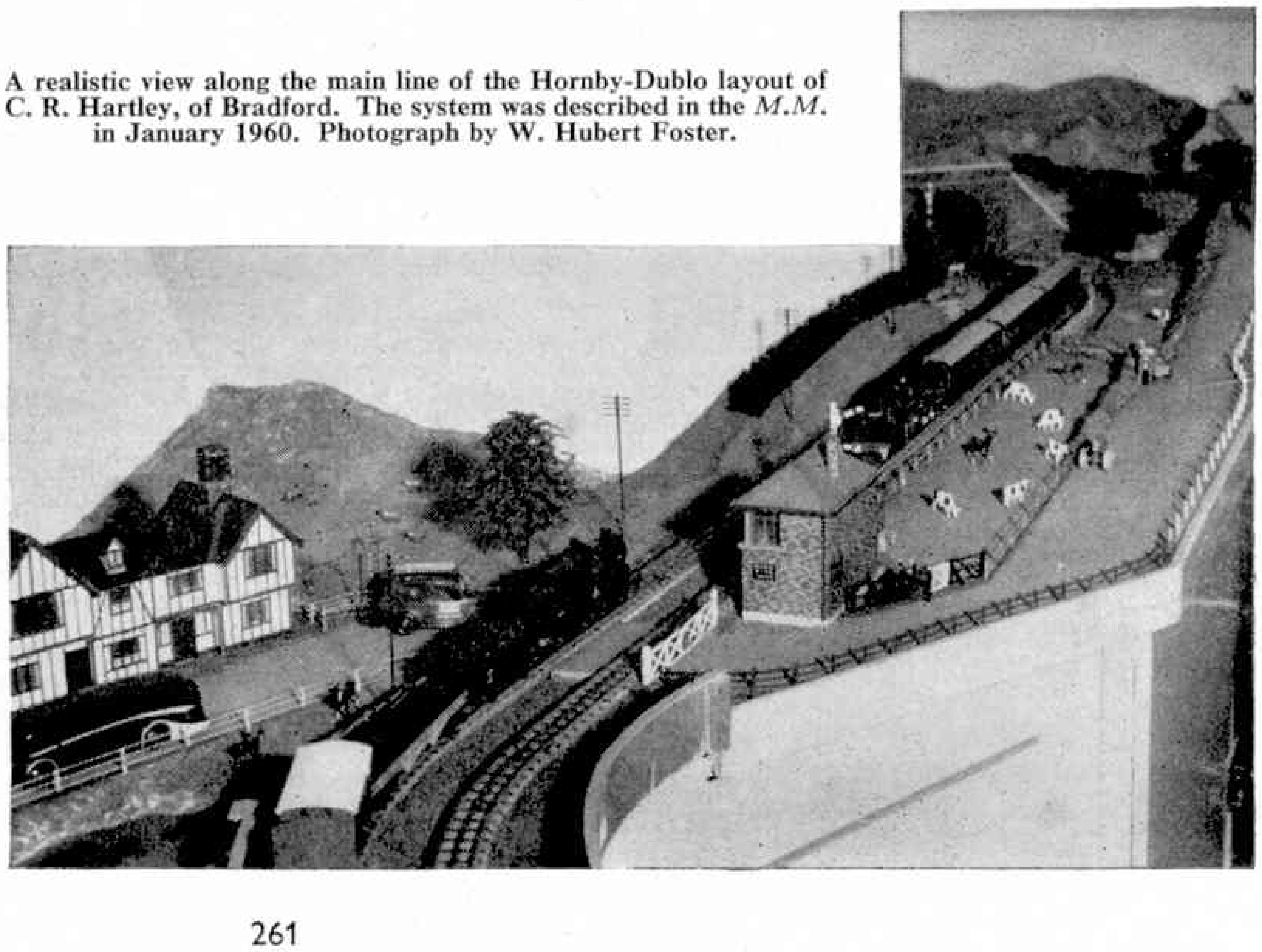
Compartment-type coaches are in use for stopping trains and there is also a T.P.O. Mail Van, the lineside apparatus for which is situated on the high-level track near *Corfe Bay*. The T.P.O. Mail Van is sometimes attached to an express formed of maroon-coloured stock, but plans are in hand to obtain one or two of the Passenger Brake Vans introduced into the Hornby-Dublo System a little while ago and to make up a *Night Mail* with these, and with the T.P.O., with the possible addition of a Sleeping Car.

In the formation of the various passenger trains the individual types of vehicles are not mixed to any great extent. Thus, each main line train has a consistent appearance both in regard to the type of stock employed and the livery. So far as possible, the appropriate engines are detailed to haul them. With freight trains, of course, the position is entirely different, as there is a wide variety of stock, both old and new, which is understandable in view of the time covered by the development of the railway to its present state.

Hornby-Dublo semaphore Signals are effectively used on the layout and particular care has been taken in their placing so that they could reasonably be sighted from the footplates of Hornby-Dublo Locomotives traversing the system. Here and there, where circumstances demand it, home-made "sighting boards", painted white, have been provided to give a clear background to the semaphore arms. In addition to hand and Electrically-Operated Semaphore Signals there are Hornby-Dublo Colour Light Signals as well.

Background scenery

Although the layout may seem rather involved, especially from the railway point of view, actually it is not so. This is mainly because the baseboard-level and the high-level tracks are separate, but connected, circuits. Another point is that care has been taken in the arrangement of the lineside and (*Continued on page 266*)



A realistic view along the main line of the Hornby-Dublo layout of C. R. Hartley, of Bradford. The system was described in the *M.M.* in January 1960. Photograph by W. Hubert Foster.

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FOR OTHER STAMP ADVERTISEMENTS SEE ALSO PAGE 265

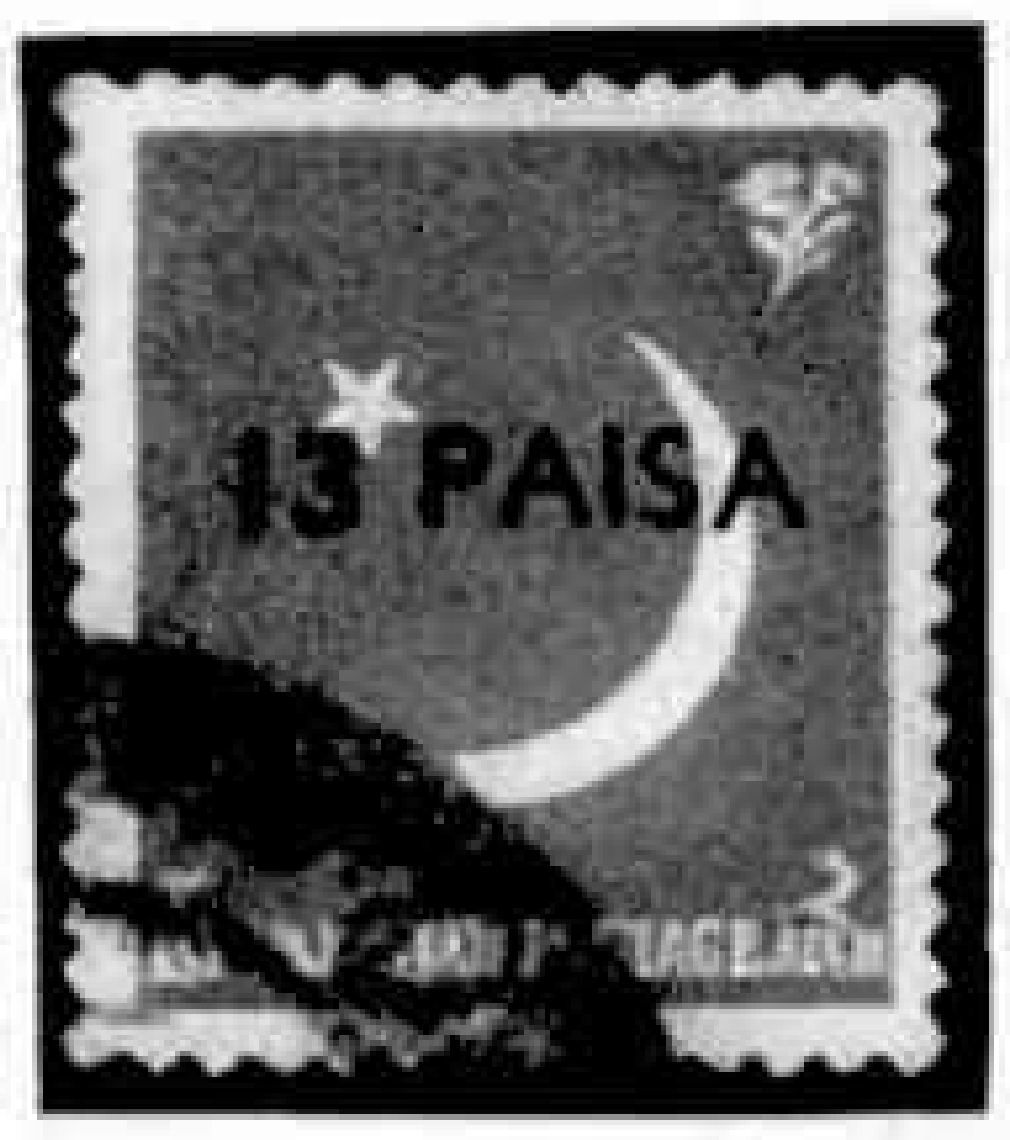
For Stamp Enthusiasts

Currency Changes and Stamps

By F. E. Metcalfe

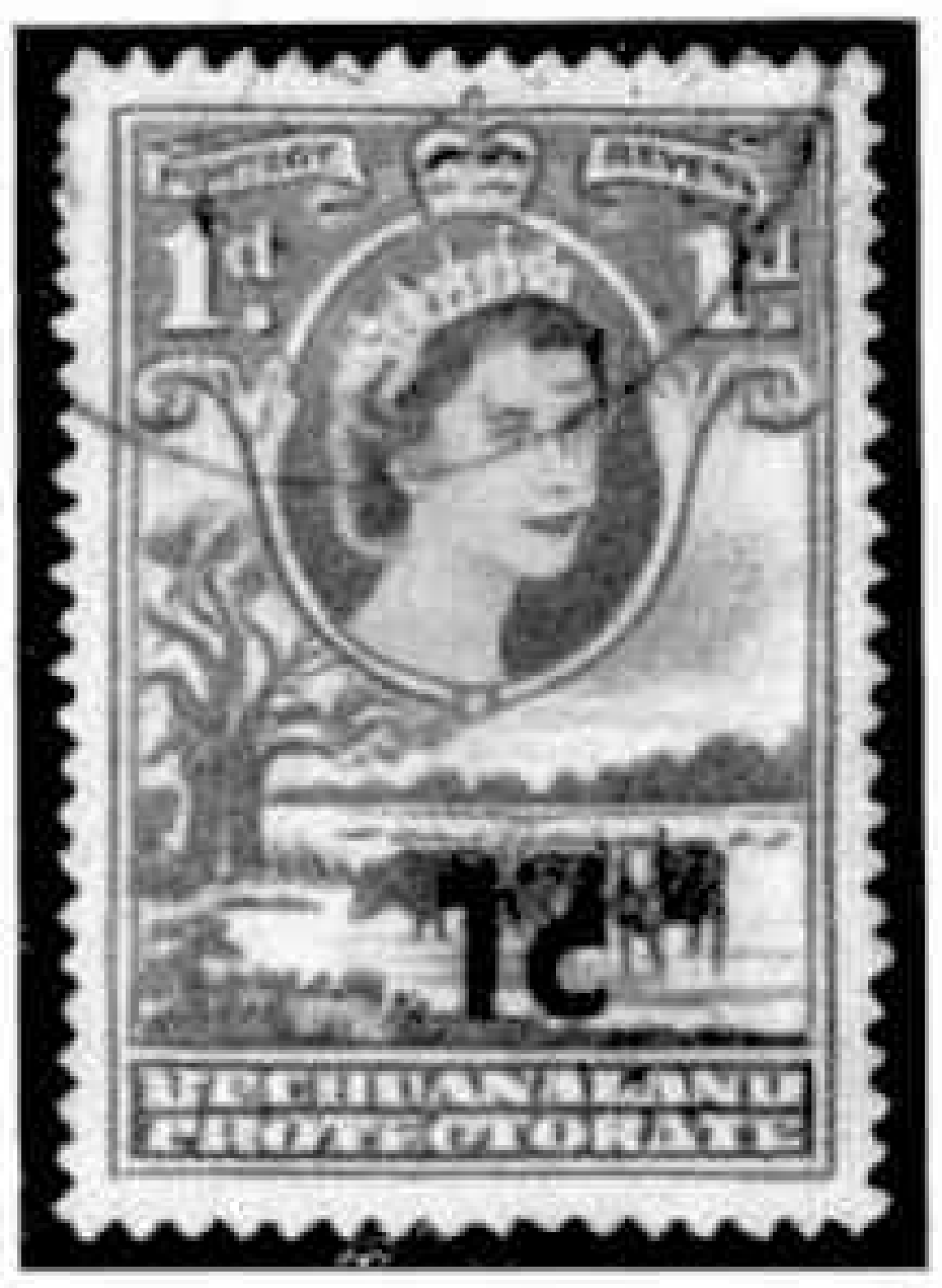
STAMP collectors have been very busy this year, and one of the factors responsible for that business has been changing currencies. In our own British Commonwealth several countries have done a switch, and this has meant that the existing postage stamps also had to be changed. With neither collectors nor dealers knowing which stamps would be overprinted next, the scramble was intense. What made it worse was the fact that some of the stamps to be overprinted were only available in small quantities.

Pakistan was one of the countries concerned, and what that Post Office did was to rake out old stocks and overprint them in the new paisa currency (100 to 1 rupee). Just when the dealers thought they had things in hand (the official overprints were in black) several stamps appeared on the scene with the overprint in purple (obviously done with a rubber stamper) giving first the original value of the stamp, say 8 annas, and below it the equivalent in the new currency, 50 paisa. What on earth were these? It transpired that the stamps had come direct from one of the post offices in East Pakistan, but they still hardly looked like an official job. I made some investigations, and learned that the overprinting had been done to help those who were having a bit of difficulty with the change-over. Quite a good idea, and the stamps thus treated will at least interest specialists.



But the countries which caused the greatest upset with the stamps they overprinted were the Southern African Protectorates—Basutoland, Bechuanaland and Swaziland. To keep in line with South Africa they moved from pounds, shillings and pence to cents and the rand, the latter being valued as ten shillings. The stamps of the three Protectorates were sent to the South African Printery at Pretoria, and there overprinted. Considering the number of stamps which had to be treated a very good job was done, although it is true that a few varieties have turned up.

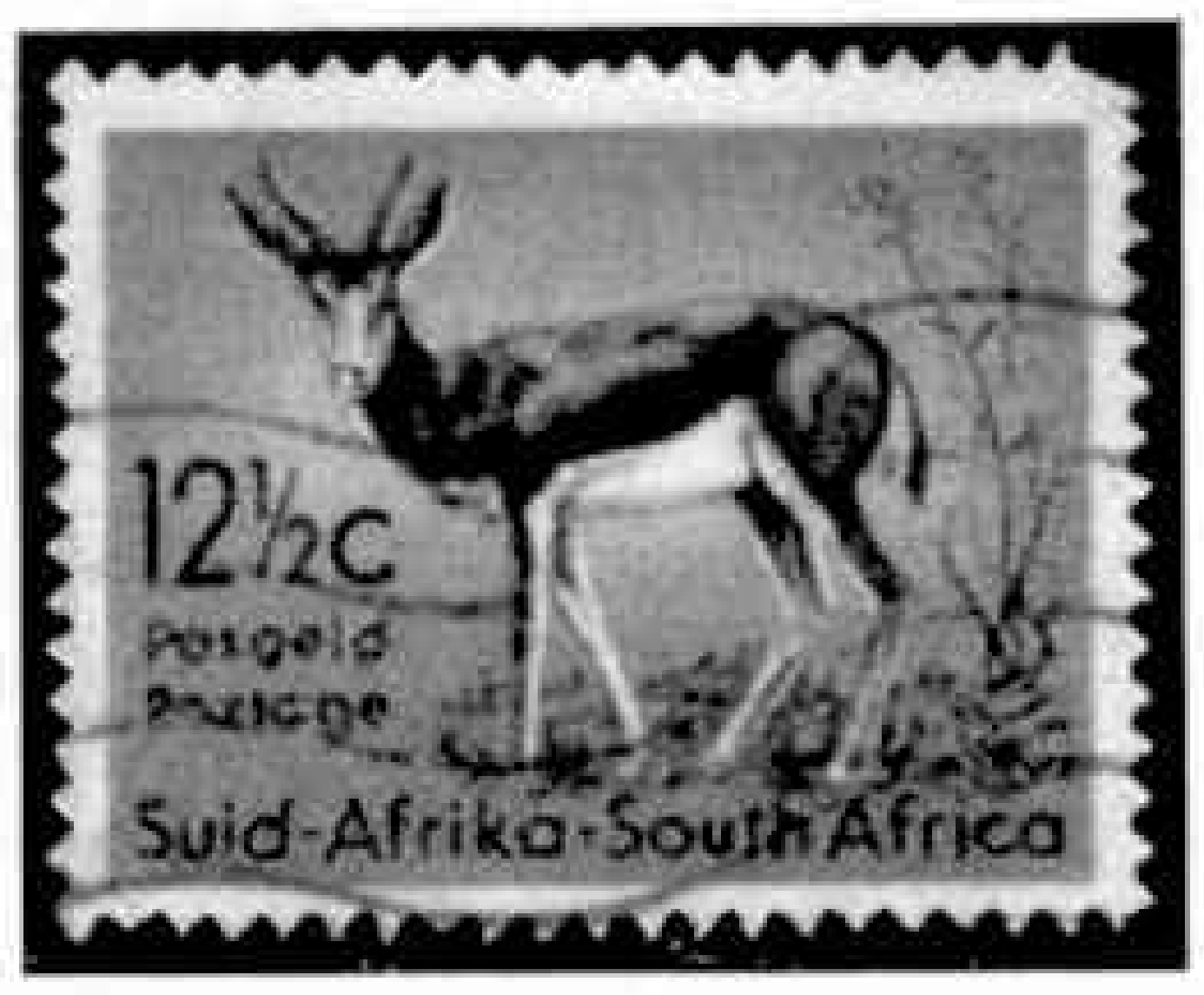
Supplies of some values were short, as already mentioned, and this meant that of these there were not enough stamps to go round—and you know what that means. On top of all this, in some cases stamps such as the high values, and several postage dues of Swaziland, exist in two different types of overprint, one smaller than the other, and I am afraid that prices have got very stiff, and are likely to rise still further. I am glad to note that many junior collectors at least got short sets, and these are well worth having.



Now, of course, South Africa, whose change-over it is, and who started the local currency ball rolling, is no longer in the Commonwealth. But most collectors here in Britain, who originally included the stamps of this country in their Commonwealth collections, will continue to do so, and thus the stamp changes there have been keenly noted. On February 14 the "zoo" set appeared with cents and the rand taking the place of pence and shillings and, after a very short life of just two and a half months, they were replaced on May 31 by an entirely new set.

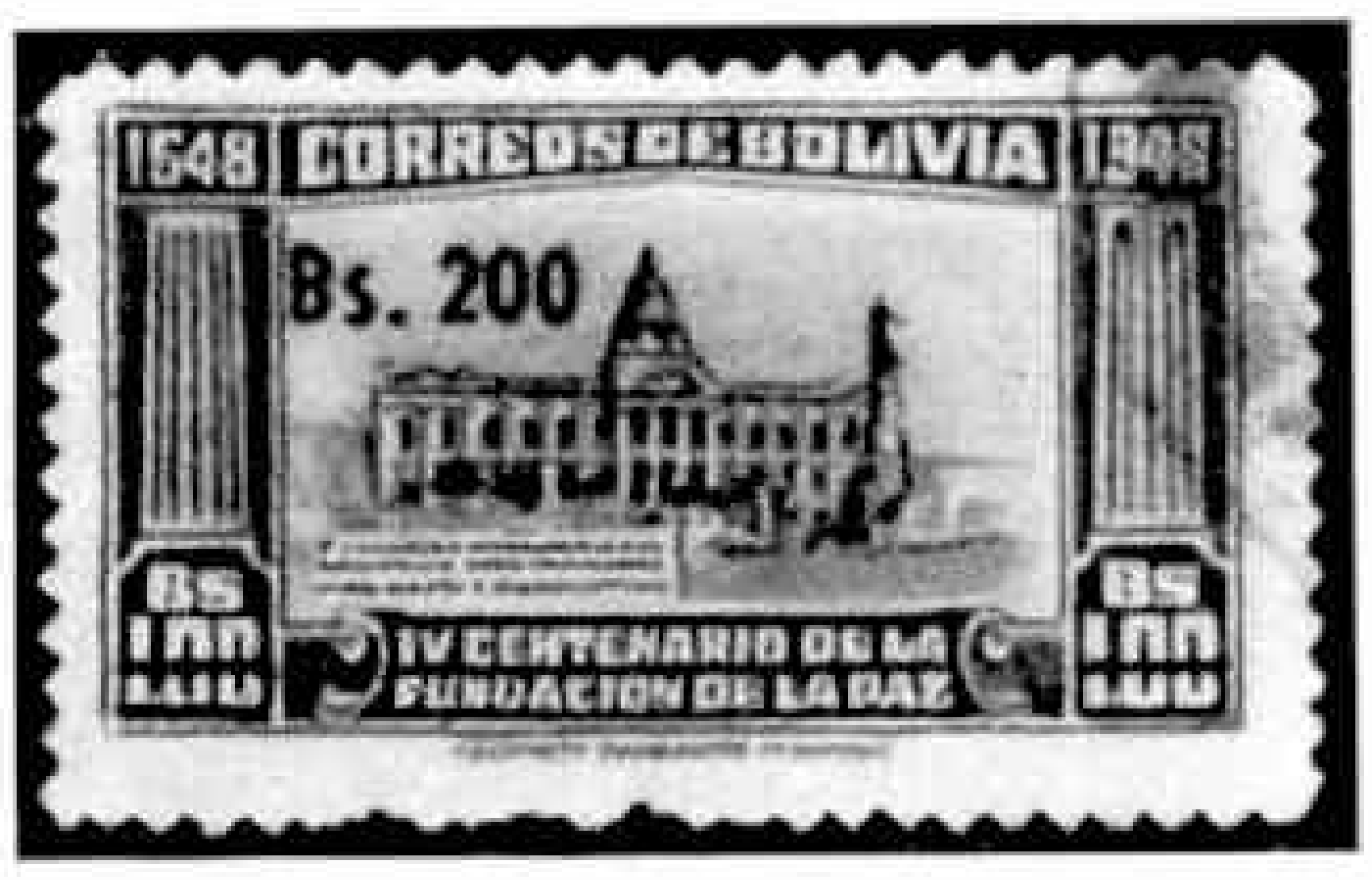
I am mentioning these stamps because I want to point out that while prices are still reasonable I feel sure they will increase steeply as time goes on. So, if you include South Africa in your collection, try to complete this stop-gap issue—and don't despise used, for although South African stamps in used condition are generally fairly common, these "zoo" stamps have not had a long enough life for very many of them to have been cancelled.

Then we have South-West Africa, which also switched over, as I mentioned last month, but in this case there was no intermediate issue. New designs accompanied the new currency. I can hear several readers ask: What about Tristan da Cunha? They changed their stamps because of the South African currency change. Does that island belong to South Africa or to us? Well, nowadays it is a bit out of date to talk about any country belonging to another, so we'll just say that Tristan da Cunha is in the British Commonwealth, and leave it at that. But that still does not answer the question as to *why* the currency was changed to match that of South Africa. In fact, it makes it less understandable than ever.



As far as I can learn—and I did inquire—Tristan hardly bothers about money at all in its internal business operations. But there is a South African company there which catches and exports (mostly to the United States) crayfish, for which the waters surrounding the island are famous, and that apparently is about the only firm which needs to bother about such a mundane commodity as mere money. Potatoes probably provide a better means of exchange for the Tristan islanders. Wise people.

I have been referring only to the changes in our own Commonwealth, but, of course, as stamp collectors know, these adjustments are not confined to us. Money changes, and adjustments that accord with the stamps, are happening all the time, and I have been surprised how popular collections of stamps so effected are becoming.


1548 CORREOS DE BOLIVIA 1948
Bs. 200
Bs 100
Bs 100
IV CENTENARIO DE LA FUNDACION DE LA PAZ

In the case of France, they have not indulged in overprints, but in some of the South American countries—Bolivia, for instance—the changes have been fantastic. I am illustrating a stamp which has been surcharged 200 Bolivianos on 100, while the basic stamp itself also had to do with inflated currency in the first place.

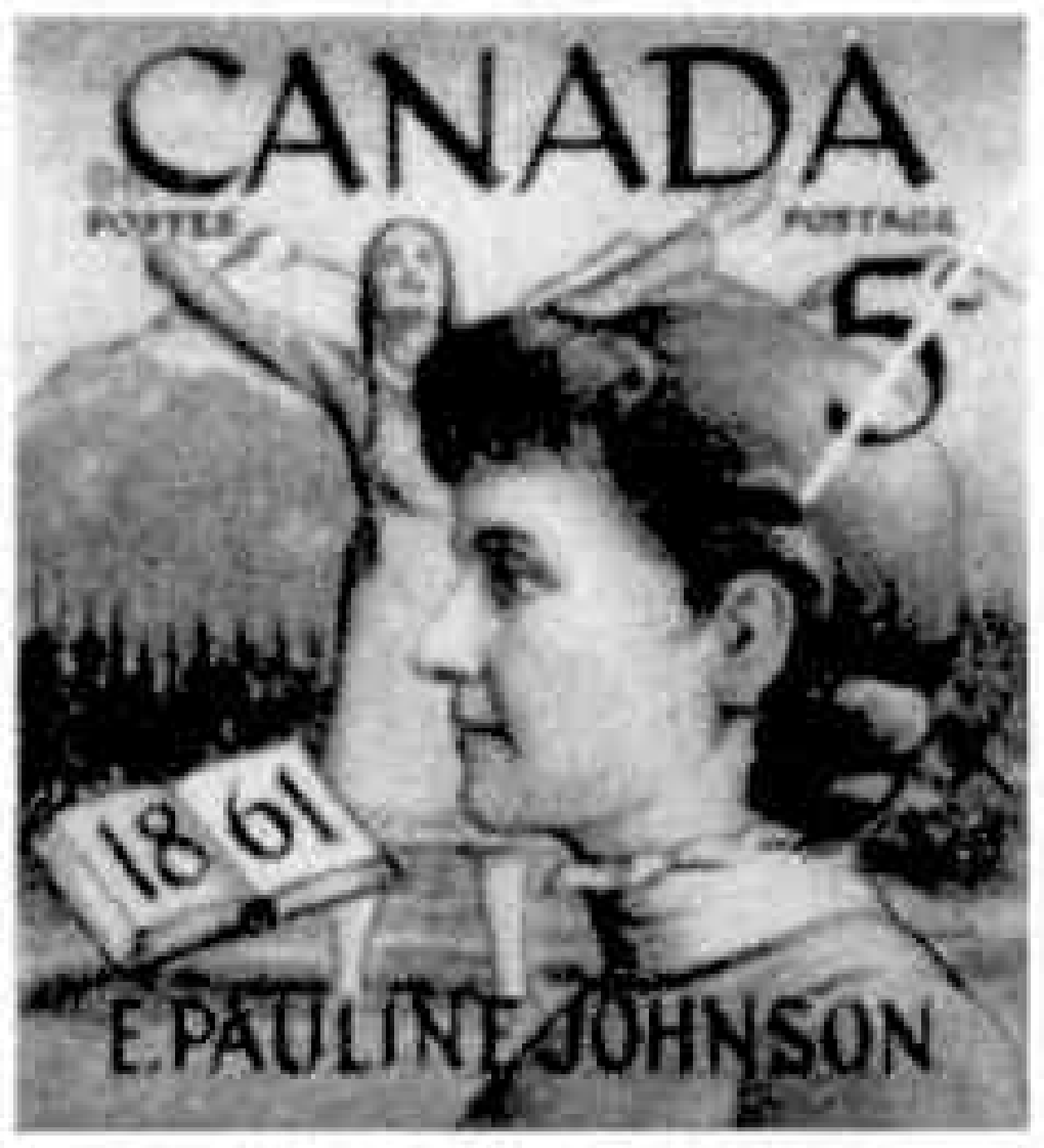
Yes, this is a changing world all right, in every respect. (When the Russians send a man to the Moon I wonder what kind of stamps he will find there? I hope he brings back a few sets, even if they are not overprinted!)

Stamps are dotting the i's and crossing the t's of such changes. No wonder they are popular. Recently, I saw a collection on exhibition which gave me the idea for these Notes. Currency changes, as reflected in stamps, was the title, and it seemed to be the most popular exhibit in the hall. What about such a collection? You will find lots of stamps to fit in, if you look around.

Stamp Gossip

Canadian Special Issues

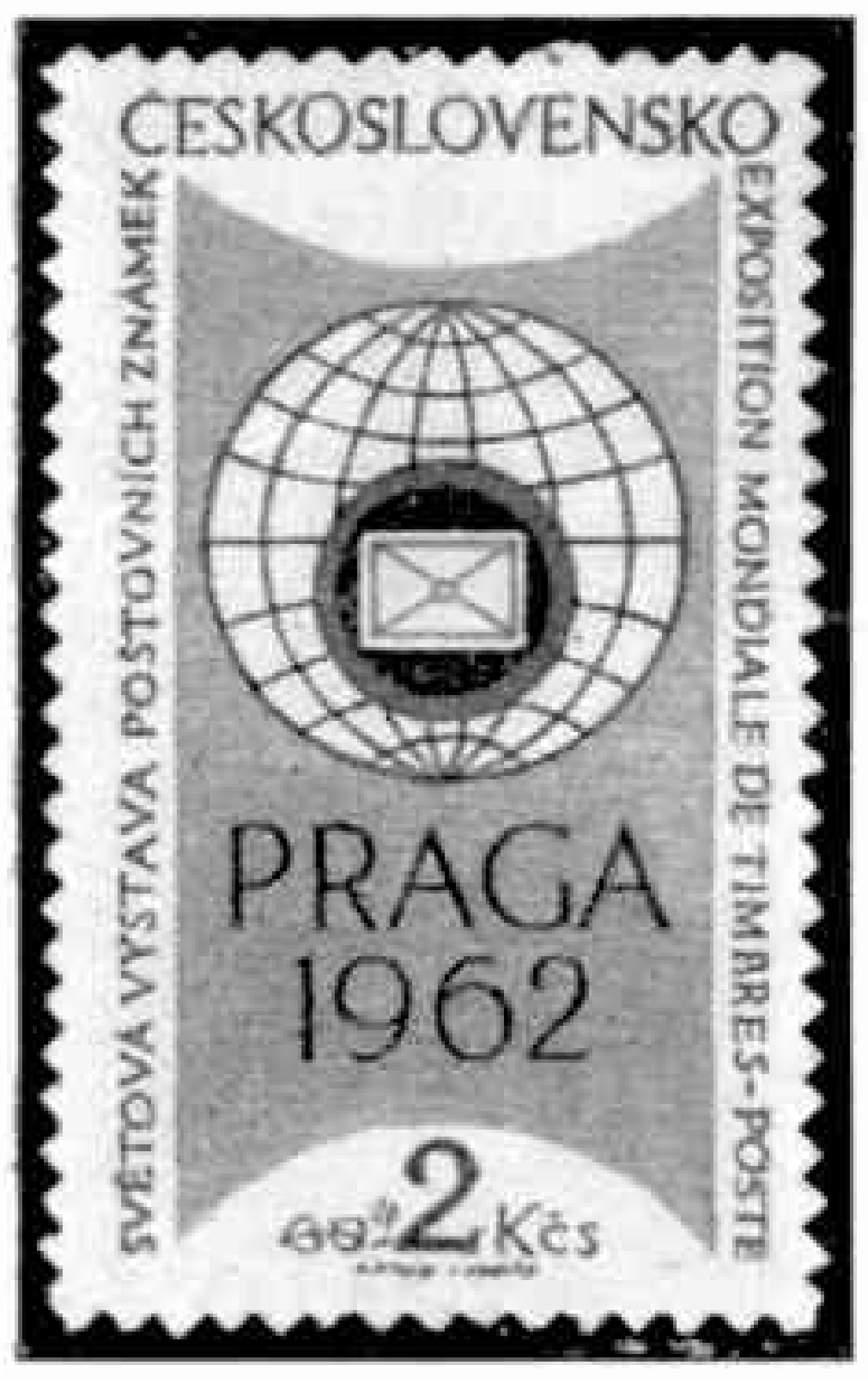
I WAS amused to read some time ago that Canada made many millions of dollars a year from the sale of postage stamps to collectors. This statement was made by one who wished that his own country would go in for more stamps. Of course, it was nonsense, as actually Canada is very conservative in this respect, and this year—up to the time of writing these Notes—only three special stamps have been issued, and we are now at the year's half-way mark.



But one thing can be claimed for Canadian stamps — they are all well designed and printed and, as in the case of nearby U.S.A., they are of low face value, with plenty for everybody. Of the three stamps I have mentioned, the one I like best was issued on March 10 in honour of Canada's Mohawk poetess, E. Pauline Johnson, who was born just 100 years before. Although she was the one specifically honoured, Canada was actually, at the same time, paying tribute to Canadian Indians in general, who have earned the respect of the whole nation. A stamp with a worthy motive behind its issue. Well done, Canadian Post Office.

STAMP EXHIBITIONS

As most collectors know, we have a stamp exhibition in London every year, and that's that. Overseas, however, they take such events much more seriously. For instance, there is to be one in Prague next year, and already I have received an invitation to attend, with an attractively printed card to which was attached the postage stamp I am illustrating here. Yes, they apparently take such events *very* seriously abroad, for these have to do with postage stamps, which also are taken seriously. I don't think that we in this country have quite caught on to this point.

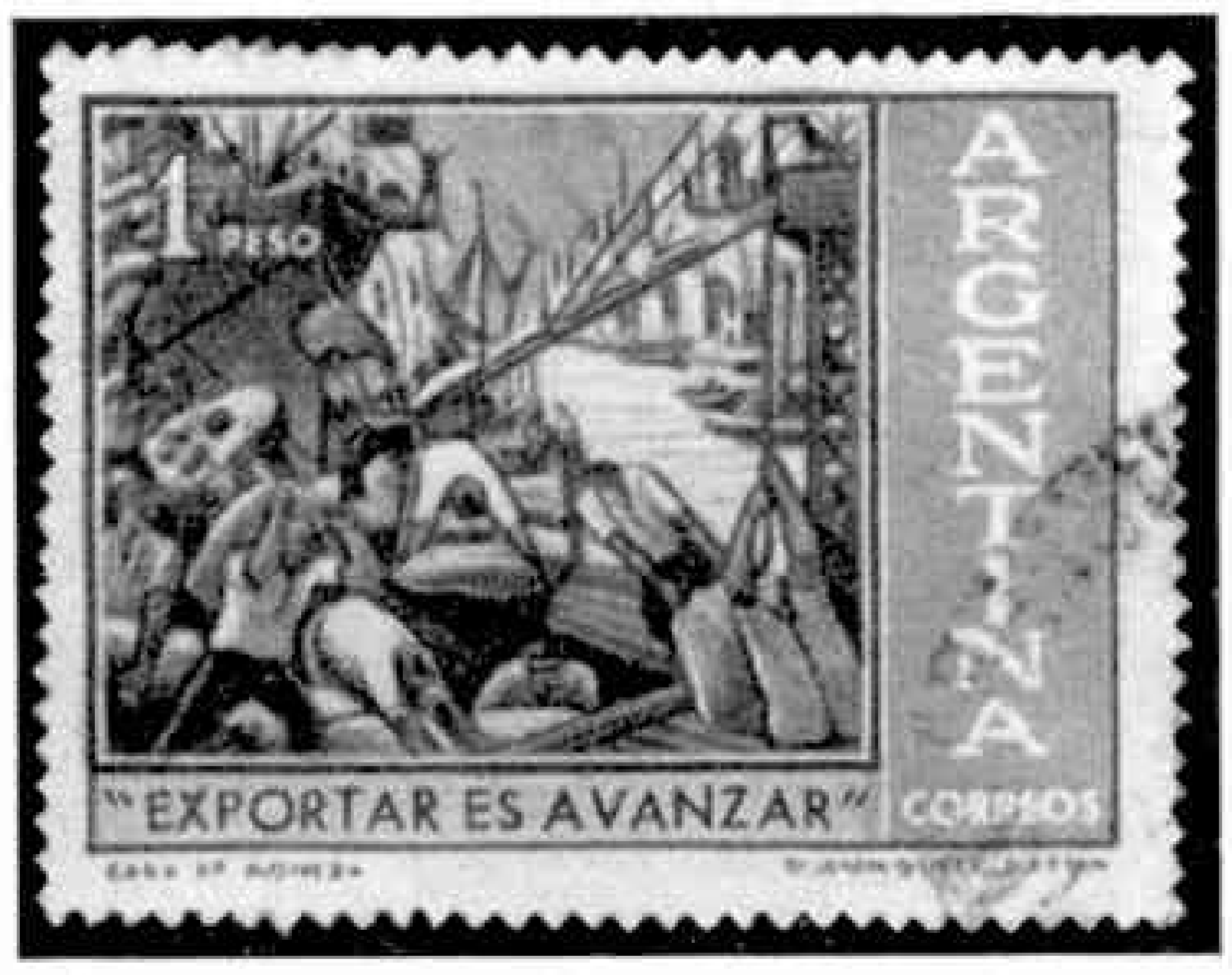

ČESKOSLOVENSKO
SVĚTOVÁ VÝSTAVA POŠTOVNÍCH ZNÁMEK
EXPOSITION MONDIALE DE TIMBRES-POSTE
PRAGA
1962
2 Kčs

Stamps are being used increasingly for publicity purposes, which is the reason why, at exhibitions, foreign post offices are taking stands and exhibiting the stamps they have for sale. At the London exhibition, I am glad to say, the finest official display was that belonging to the Crown Agents, who handle most of the stamps issued by the various British colonies. A figure indicative of the popularity of stamp collecting, and one which also shows the amount of publicity to be obtained through stamps, is the total of active collectors in West Germany alone—claimed to be 5,000,000. No wonder Prague issues a special stamp to call attention to its stamp show.

RED, BLUE AND VIOLET BOOKS

That's how the Post Office authorities advertise stamp booklets they are anxious for us to buy. Why? Well, if they can get the public to buy them, they will save themselves an awful lot of trouble, and at the same time we will save ourselves a lot of visits to the Post Office to buy odd stamps. Of course, a lot of booklets are sold as it is, but when you remember that every year the Post Office sells 3,000 million 3d. stamps you will realise that there is still plenty of scope for more booklet sales. The motto is *Stamps in books save time*. To that I would add, save the time of both the Post Office and the public.

Here is a point for collectors to remember. Half the stamps in booklets have their watermark inverted, and these are quite nice varieties—which are listed separately in the Commonwealth QE catalogue—and it is only in booklets that you can get them so. My tip is buy booklets when you want stamps, and examine each pane, and if the watermark is inverted, well, there you have a collectable item.



"TO EXPORT IS TO ADVANCE"

That's the inscription on a handsome stamp recently issued by Argentina, so it is not only Great Britain that has an eye on the advantage of exporting. Most countries are interested in the subject, but it has been left to the South American republic to say it with stamps. This confirms my point earlier in these Notes that stamps provide first class publicity, and without doubt one principal *raison d'etre* is that they shall be used for postage. This is probably the reason why our own Post Office is to issue three special sets this year. I will have more to say about these later.

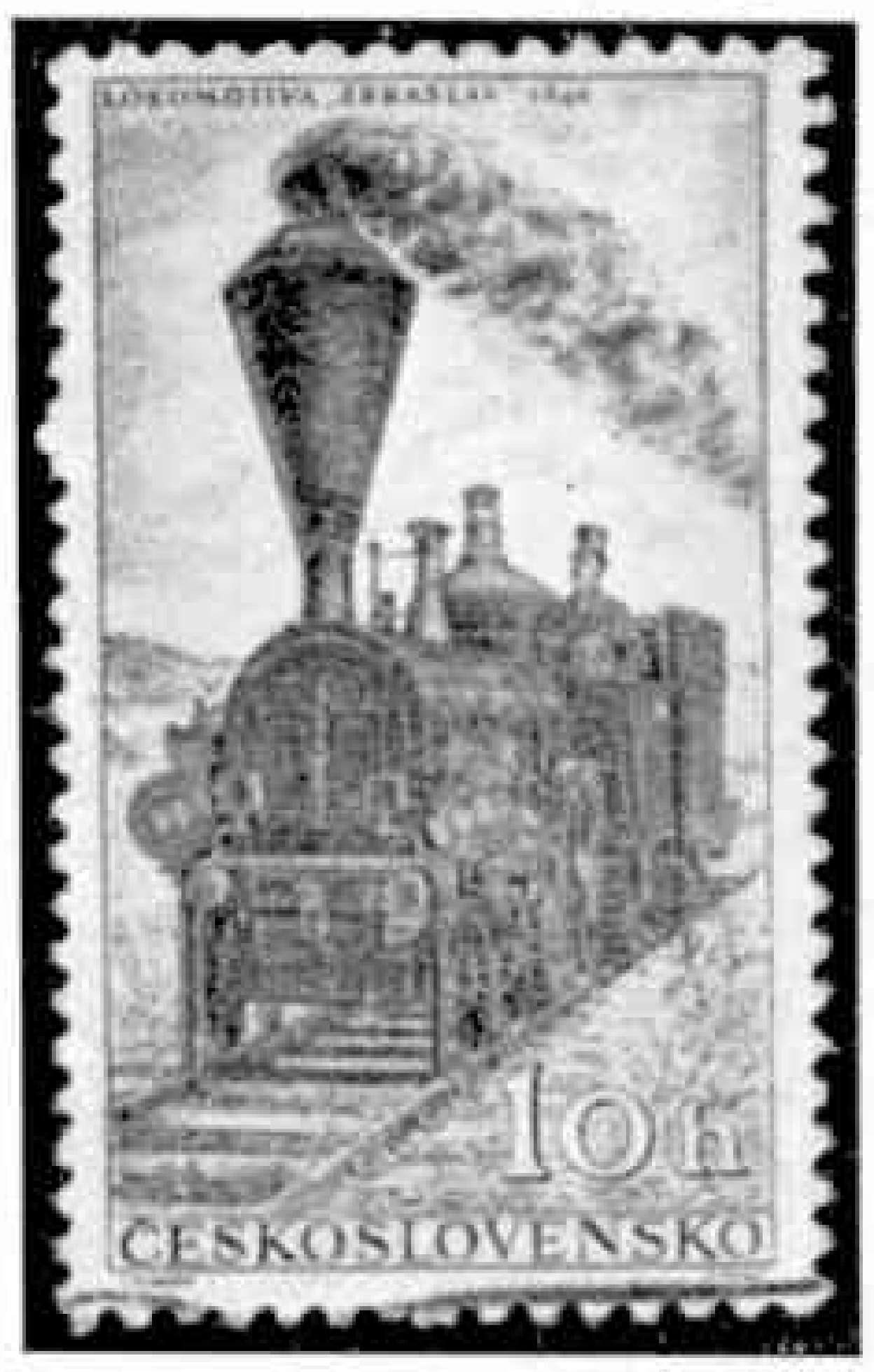
Meanwhile, if you can arrange to tap a good source of supply of used copies do not hesitate to take advantage of your good luck, as British "QE" stamps are gaining fast in popularity every day. Nice copies of special issues will be well worth having as time goes on.

Perhaps for the record I had better state what our special issues are to be this year. On August 28, 2½d, 3d. and 1/6 stamps will appear to mark the centenary of the Post Office Savings Bank. Then, on September 18, we get another three stamps, for the second anniversary of the European Postal and Telecommunications Conference. The values will be 2d, 4d and 10d. Finally, on September 25 there

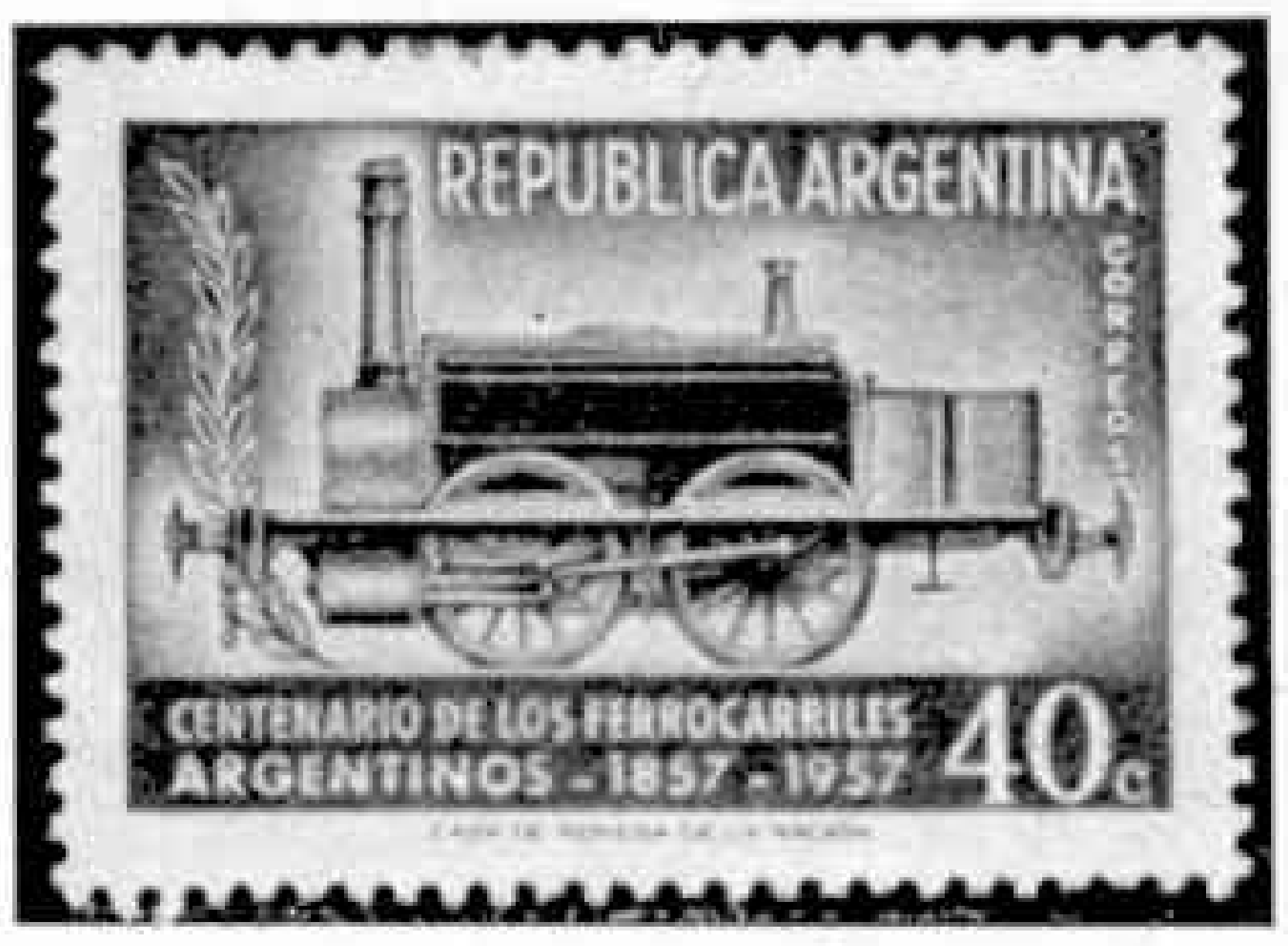
(*Continued on next page*)

By E. W. Argyle

Locomotives On Stamps



THE quaint 4–2–0 locomotive "Zbraslav" was built in Wiener Neustadt (Vienna New Town) in 1846 and was one of six similar types built between 1845 and 1846. All were named after places in Bohemia, viz. Sternberg, Trubau, Ulutz, Prag, Zbraslav, Meyrhofen. They were in service on the first railway between Prague and Ulomone.


REPUBLICA ARGENTINA
CENTENARIO DE LOS FERROCARRILES ARGENTINOS - 1857 - 1957
40c

Argentina's first locomotive was the English-built "La Portena", constructed by Wardle & Company, at Leeds, in 1857, which ran on the first line from the centre of Buenos Aires to what was then the village of Flores. An example of English 0–4–0 design of the period, the engine weighed 17½ tons and survived 32 years of hard work in the Argentine, before being preserved in the museum at Lujan, near Mendoza, in October 1923. In active service a headlight and cow-catchers were fitted to the engine. These were subsequently removed.

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124 West Street, Ewell, Epsom, Surrey

FOR OTHER STAMP ADVERTISEMENTS SEE ALSO PAGE 262

Judge For Yourself

By a Barrister

Next to the pavement was a high wall, and behind that, a cricket ground. On the pitch one day a cricketer hit a ball which travelled right over the wall and struck Mrs. Crump as she was walking by. She claimed damages from the cricket club.

In the case that followed, one vital piece of evidence emerged—that in the past thirty years or so a ball had been hit out of the ground six times. Mrs. Crump said that proved the club knew the accident could happen, and therefore the club was liable to her. Was she right?

(*For answer, see next page*)

Stamp Gossip—

(*Continued from previous page*)

will be two more stamps, 6d. and 1/3, this time for the Commonwealth Parliamentary Association Conference at Torquay. Eight of the best and all facially different; and they will be well worth picking up, used.

THE TRUCIAL STATES

Collectors know that earlier in the year a set of stamps was issued for use in the Trucial States. Several *M.M.* readers have written asking me where these countries are and what they are. I even received a similar enquiry from a very famous American institution. Well, the word trucial has to do with truce, as most would guess, and the states concerned are independent Arab shaikhdoms in the Persian Gulf. Their names are Abu Dhabi; Dubai; Sharjah and Kalba; Ajman; Umm al Qaiwain; Ras al Khaimah, and Fajairah. The group name derives from a maritime truce signed as long ago as 1835, when the Shaikha undertook not to engage in hostilities by sea provided that the British Government (these were the days of the Pax Britannica) gave them a free hand to scrap with one another on land. The truce was for six months only, but it was extended several times. Finally, a Treaty of Peace in Perpetuity was signed in 1953, and apparently it has been kept ever since. Originally these states used Indian stamps, but later the stamps of Great Britain were overprinted. Then, on January 7 this year, a set up to 10r., designed and printed specially for these sensible people, was issued.

TIP OF THE MONTH

A general one this time. I will not need to tell our Australian and New Zealand readers that the stamps of Norfolk Island are becoming very popular, for they have always a good following "Down Under". But in Britain the stamps were never much in vogue. Now a change is coming, as latterly there have been one or two nice stamps issued. So watch Norfolk Island.

A NEW LOCOMOTIVE BOOK

The Railway Correspondence and Travel Society have published *The Locomotives of the South Eastern and Chatham Railway*, which is the result of seven years' research by the author, D. L. Bradley. Official records and many other sources have been examined to present this very complete account of S.E.C.R. locomotives and those derived from them, such as Maunsell 2-6-0s and "L1" 4-4-0s, after the inclusion of that railway in the Southern group. The various classes are reviewed in turn, their numbers, dimensions, characteristics and duties all being dealt with, and there are numerous notes on the peculiarities of individual engines.

The book is well illustrated, and also includes several appendices.

Copies are obtainable from the Hon. Assistant Publications Officer, Mr. N. J. Claydon, of 19 Dene Court, Olton, Solihull, Warwickshire, for 13/6.

* * * *

Roulements Miniatures S.A., who manufacture RMB miniature ball and roller bearings, have marked the occasion of the 25th anniversary of their foundation by issuing an Anniversary Edition of the RMB catalogue. This publication comprises 100 pages packed with information and reference material which is of great interest and value to precision engineers.

Happy Shows on Summer Beaches—

(*Continued from page 235*)

for the faithful to indulge a little in anticipation of Lent.

The flowers which are used to decorate carnival vehicles have a religious origin, too. Pope Sixtus V, disturbed to hear that carnivals were being ruined by the throwing of dust and flour at those taking part, decreed that only flowers were to be thrown.

Another sidelight on seaside holidays is the history of some of the coastal towns themselves. If you spend your holiday at Margate, for example, you will be visiting what is probably the oldest resort in the country. There is little doubt that it was the first really popular holiday place, largely because of its early adoption of bathing machines. It was the first town in Britain to have them, although they were in use earlier on Continental beaches.

Royalty has had much to do with the expansion of our seaside holiday resorts. Worthing dates its popularity with holidaymakers back to the year 1780, when George III and his Queen went bathing there.

George IV helped to popularise Brighton, frequently going there both when he was Prince of Wales and after his accession to the Throne, although in his day "the Queen of the South" (as it is called today) was marked on maps as "Brighthelmstone." Although he was not supposed to travel more than 50 miles from London unless a Minister went with him, George IV did not let this rule affect his visits to Brighton—51½ miles away. He simply had the milestones on the Brighton road spaced further apart, making the apparent distance just 50 miles, so that he could make the trip unaccompanied.

Photographers' Page—

(*Continued from page 252*)

at the end of every swing before it changes direction. This is the moment to shoot.

Taking action shots is fun. Keep within the scope of your camera and you will be certain to obtain good results.

Our subject next month will be Railway Photography, including that special branch of action photography—taking pictures of trains in motion.

Well-Engineered System—

(*Continued from page 261*)

scenic details. For instance, the high-level track is carried correctly on embankments, with bridges and a viaduct section as appropriate. Housing and shop property development has not been too intense in the neighbourhood of *Layton*, but the various features of road and rail are, understandably, somewhat close together in what may be called the valley section between *Layton* and *Springvale*. Background scenery of an effective character has been provided and this gives the very pleasing effect of depth to the whole.

In a similar manner, the Hornby-Dublo layout of C. R. Hartley, of Bradford, part of which is shown in the lower illustration on page 261, has a nice development of lineside effect, without any attempt to crowd too much in. You will recall that this railway was described in the *M.M.* of January 1960, with some other illustrations.

"If you want my opinion—we're besieged!"

UNIQUE FLEET LAUNCHED AT PAIGNTON

A FLEET of nine unique double-deck buses is now being operated at Paignton by Devon General Omnibus and Touring Co. Ltd. Based on Leyland Atlantean chassis, they are the first rear-engined buses in Britain to be provided with detachable roofs so that they can be used as open-top vehicles in summer and as normal service buses for the rest of the year.

To be known as the "Sea Dog" class, each of the Atlanteans is named after a distinguished naval commander of the past, reviving a practice instituted by the original Devon General Company on three open-top vehicles 42 years ago. The special Atlanteans are replacing six open-top vehicles permanently converted from normal double-deckers in July 1955. These were 55-seaters, with seats for 31 people on the top deck. The M.C.W.-bodied Atlanteans have a much greater seating capacity—75, and the upper saloon alone takes 44 passengers.

Conversion of the "Sea Dog" class Atlanteans for their summer duties is a simple operation. The roof is secured to the body by 20 fixing nuts, seven on each side and three on the front and rear. Over the destination box is a multi-point electric plug which carries the power supply for the interior lights in the upper saloon, and this is protected by a metal cover.

Both the nuts and the plug are disconnected, and the vehicle is run into a specially marked "box" on the floor of the Newton Road, Torquay, depot. This sites the vehicle beneath a special lifting frame suspended in a fixed position from the roof of the building. On each side of the bus roof are provided two lifting brackets. The lift-frame hooks are fastened to these, the roof is raised by a hand-operated winch, and the vehicle driven out of the "box".

The top deck is then completed for its summer work by fixing stainless steel guardrails into the sockets left by the roof fixing nuts, those at the front being provided with Perspex to serve as a windshield.

Seats in the upper saloon are upholstered in water-proof P.V.C. material with sealed stitching. There is a drain outlet at floor level on both sides. A protective weather strip along the outside edge of the roof ensures that water is kept out when the roof is back in position.

Three specially designed trailers are used for storing the roofs when not in use. The roofs are lowered on to these, three on each, directly from the lifting frame in the depot roof.

ANSWER TO "JUDGE FOR YOURSELF"

The club could only be made liable for the accident, said the judge, if it was the sort of thing which was reasonably likely to happen, and which the average man would therefore try to prevent. But on the evidence, the chances of a ball being struck out of the ground were very small, and of it hitting a passer-by, even smaller.

Since the club had built the wall high enough to guard against all but this very slight chance, Mrs. Crump lost her case.

"Is this the night express?"

Fireside Fun

A professional woman used the car even more than her husband did. One day he asked, "Checked the water lately?"

"Water?" she said innocently, "It runs on petrol."

* * * *

Mother had a cold and, with the idea of avoiding giving it to her three-year-old daughter, kept away from her and did not make the usual fuss of her. When the father came home he asked both of them how they were. Said the little daughter, "I'm sad. Mummy didn't show me any infection all day."

* * * *

Struggling painter: I would like to donate one of my pictures to assist some deserving charity.

Friend: Why not give it to the Institute for the Blind?

"Did you notice that I gave the hall-floor a coat of stain today?"

On the desk of a high official in the Civil Service is a notice which reads: Do not get the idea I'm inefficient. The secrecy of my job doesn't permit me to know what I'm doing.

* * * *

"Mr. Johnson, I'm sure you'll help us out with a song."

"Sorry, but my vocal efforts are confined to singing in my bath."

"Please do sing, though. I'll warn them that you're rather out of practice."

* * * *

"You have such a smart overcoat that I cannot understand why you have such worn-out trousers."

"How can a man get new trousers in a restaurant?"

* * * *

"I'm dreadfully sorry to be so late," apologised the diner-out.

"My dear Mr. Smith" said the hostess, intending to be pleasant, "*You* can never come too late."

* * * *

There was a fire in the suburbs, and no reporter was readily available. The news editor summoned the newly-employed society reporter and asked her to investigate and report. Her report read as follows:

"A brilliant fire was held yesterday afternoon at the house of Mr. and Mrs. Jones in Deep Street. A large number of people were present. Mrs. Jones, who had recently had her hair permed, made a charming escape in a pretty dress with a floral pattern, a design for which appeared on our women's page last week. The firemen were becomingly and attractively dressed in full-cut tunics, edged with purple piping. The weather was quite delightful. Everyone was of the opinion that this was the biggest and most brilliant fire this season and must have cost the organisers at least £75,000"

A convict about to be released was taken to see the prison governor.

"I am sorry", said the governor, "but owing to an error you have been kept in prison a week longer than you should have been."

"Don't worry", said the prisoner, "Just dock it to my account."

* * * *

The medical board was giving a mental test to a would-be recruit. One of the questions was, "Do you ever hear voices without being able to tell who is speaking, or where the voices are coming from?"

"Yes, sir."

"And when does this occur?"

"When I answer the telephone."

* * * *

Old Gentleman: And how do you like school, my little man?

Little Boy: Closed!

* * * *

Mistress: This pie is absolutely burnt. Did you make it according to instructions in the cookery book?

Cook: No, ma'am; it's my own cremation.

"You ordered firewater, sir. . . ."

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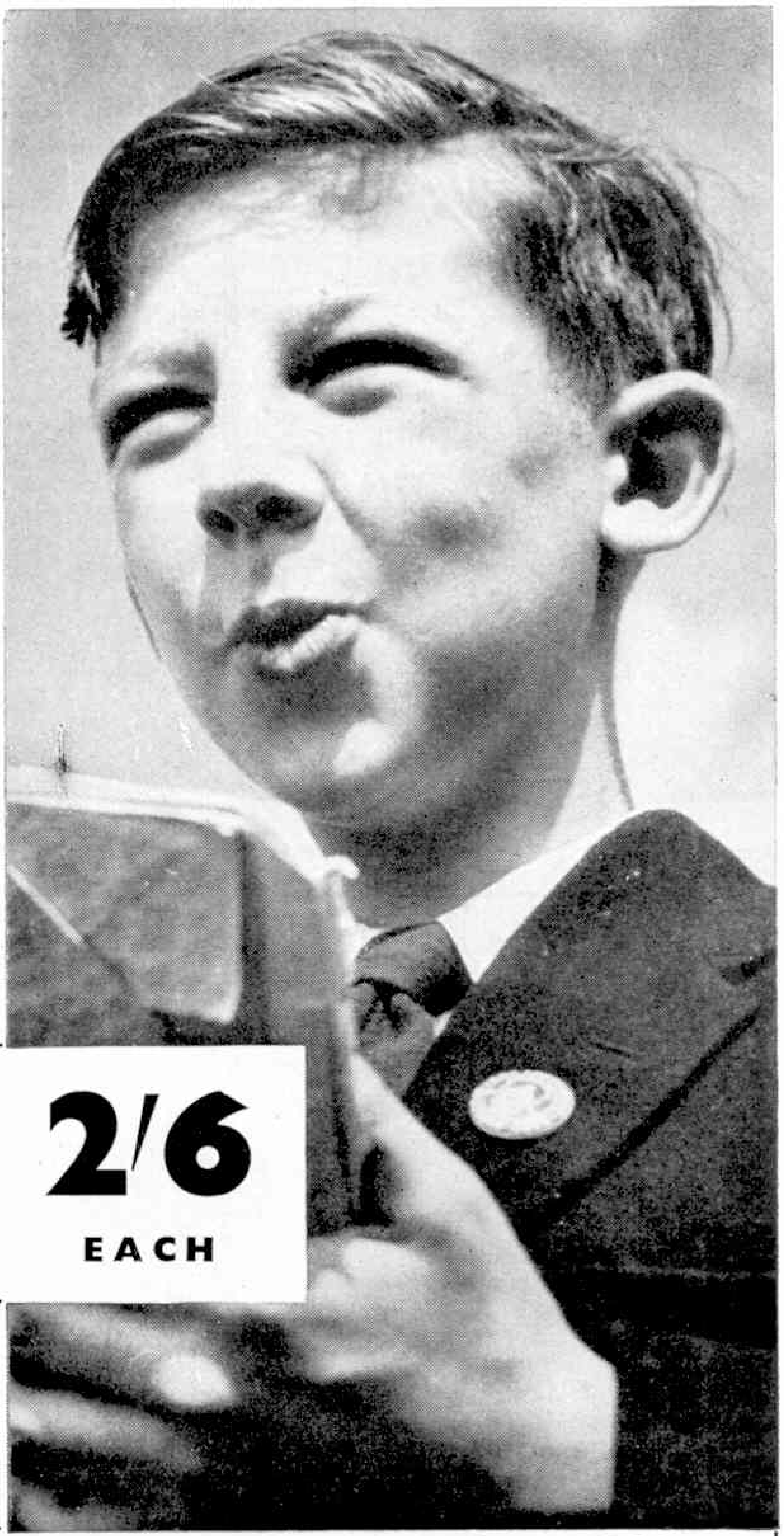

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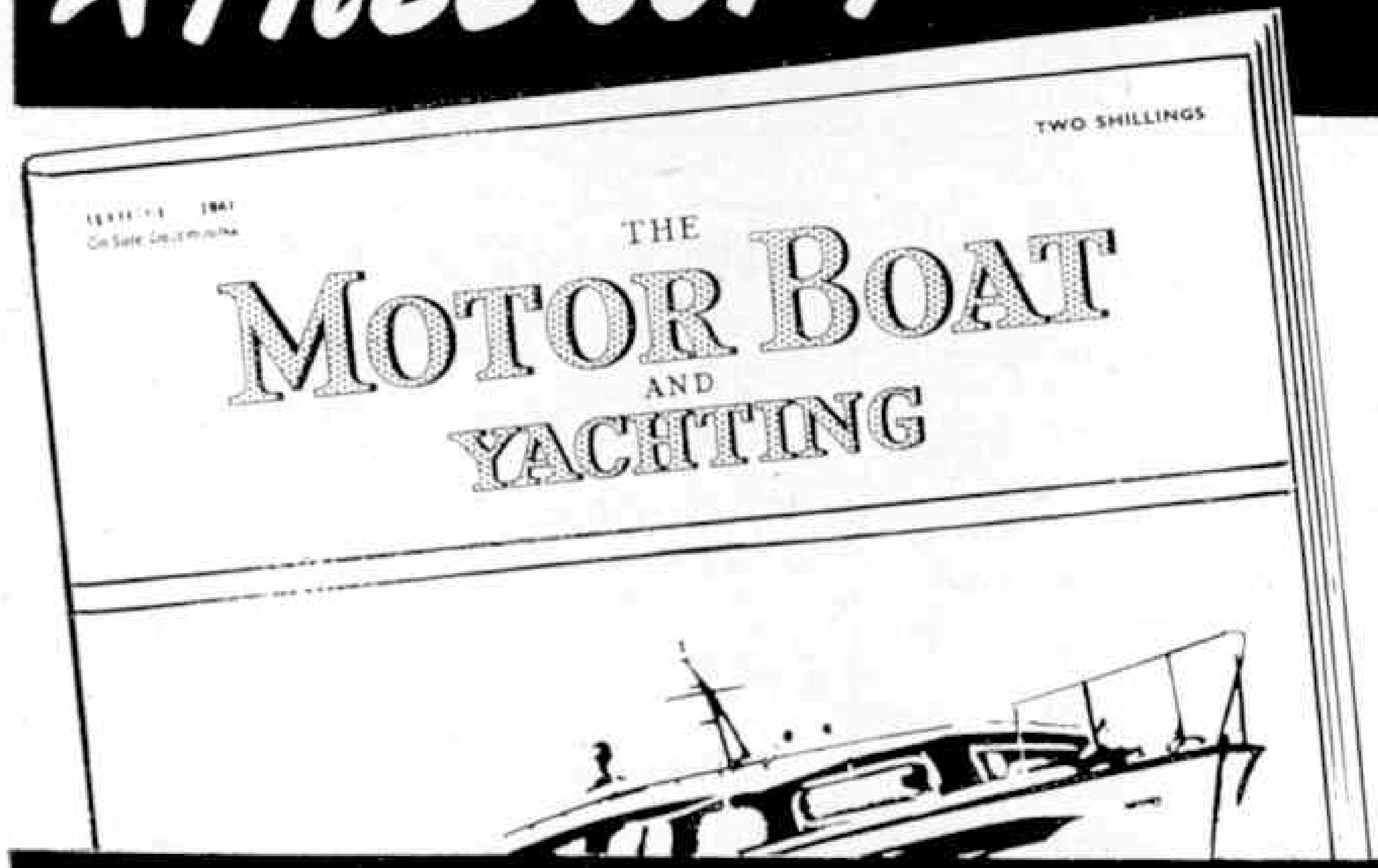

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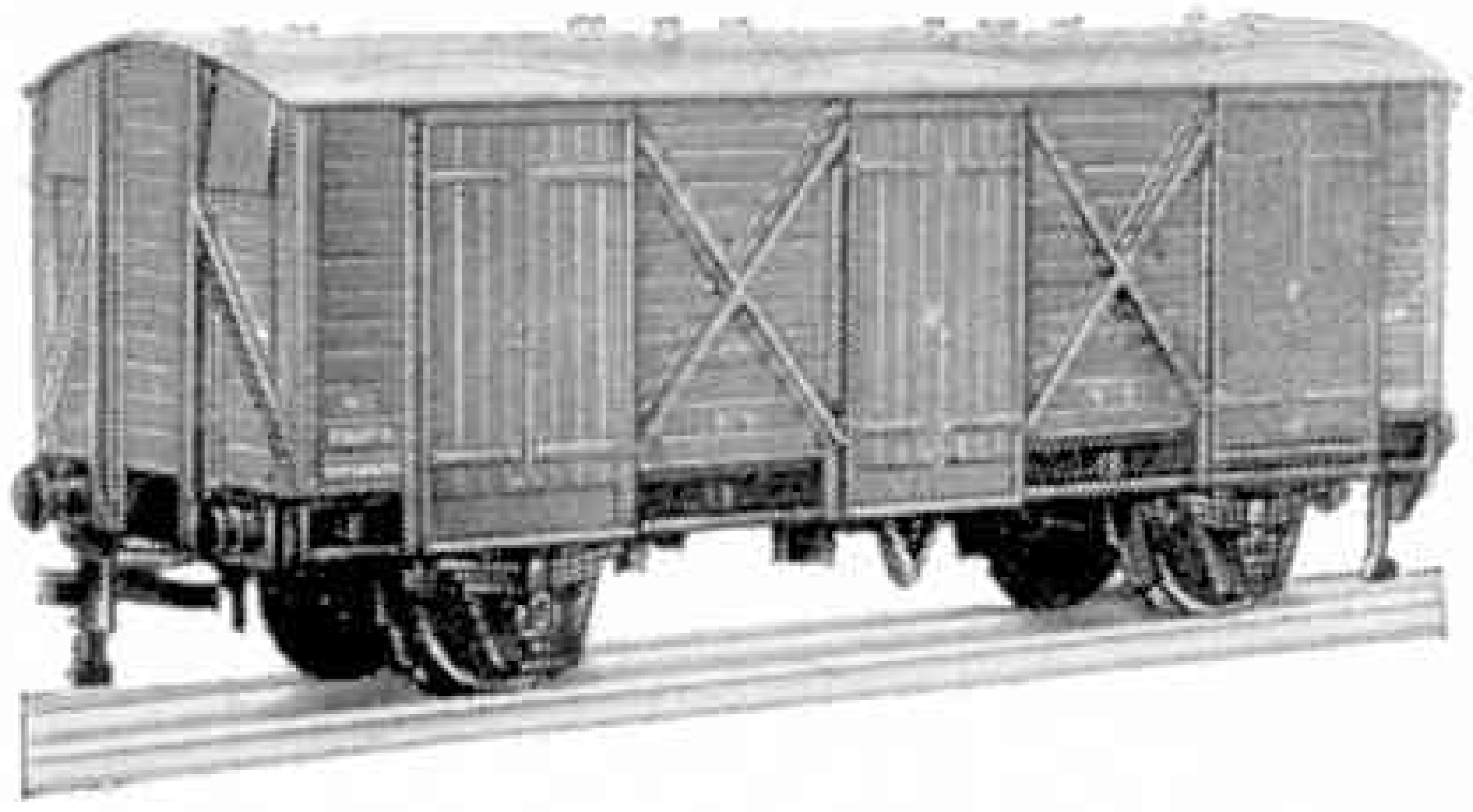

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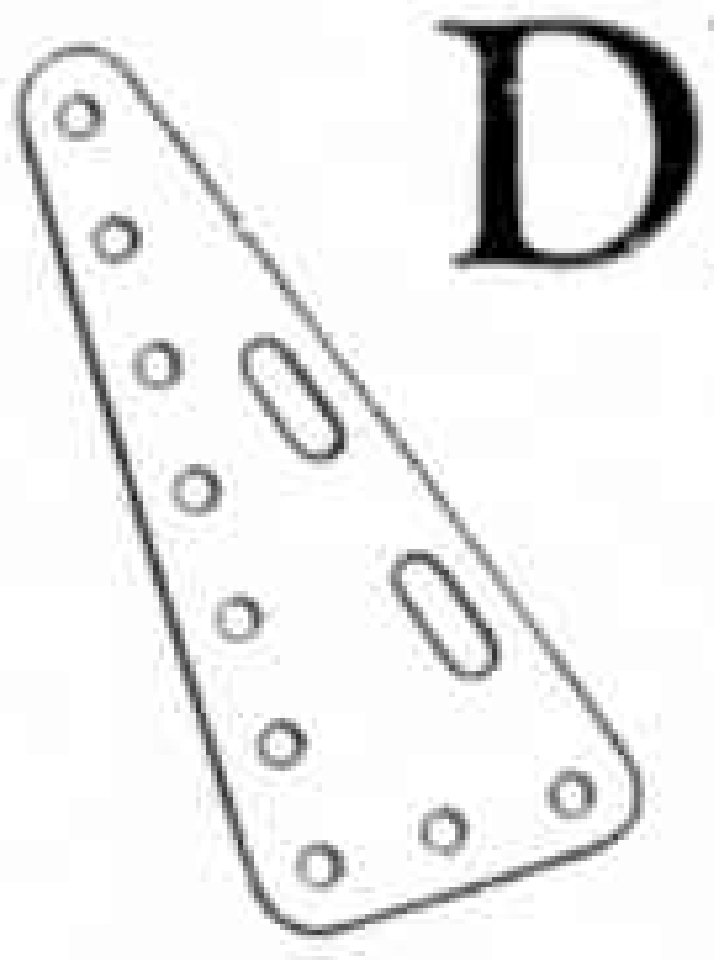

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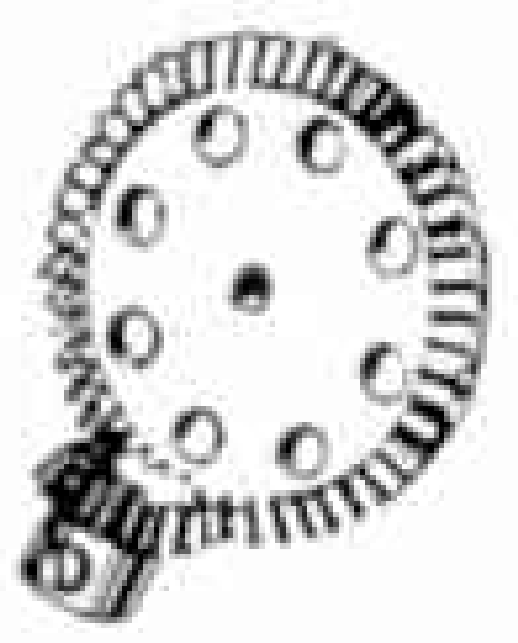

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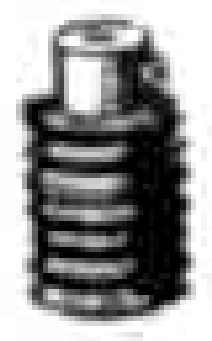

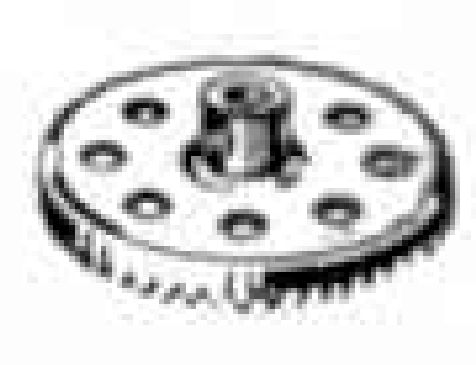

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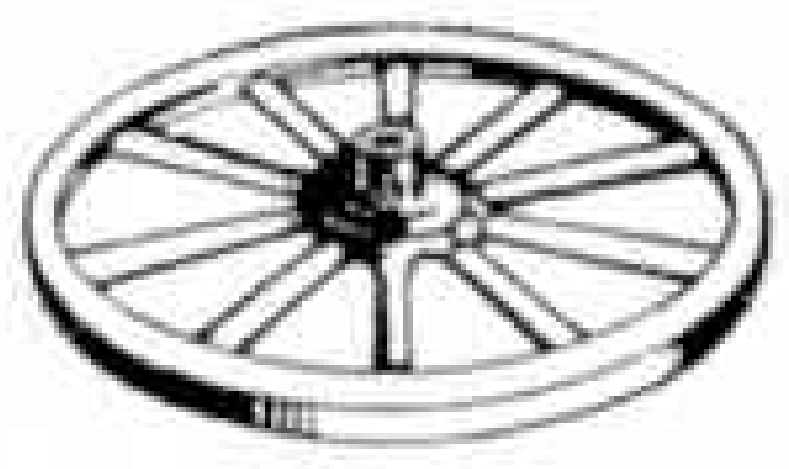

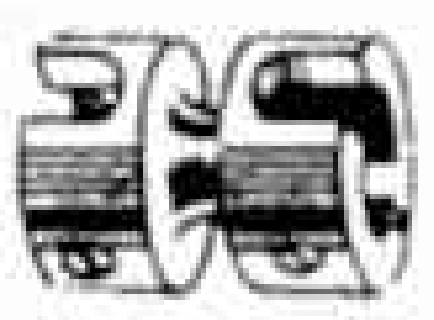

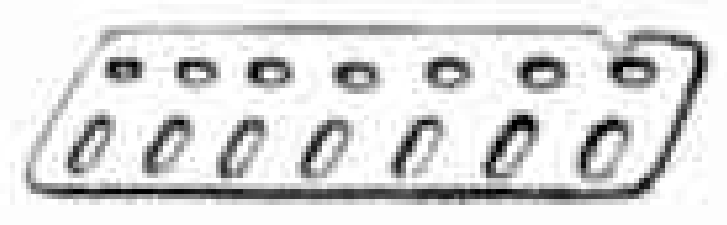

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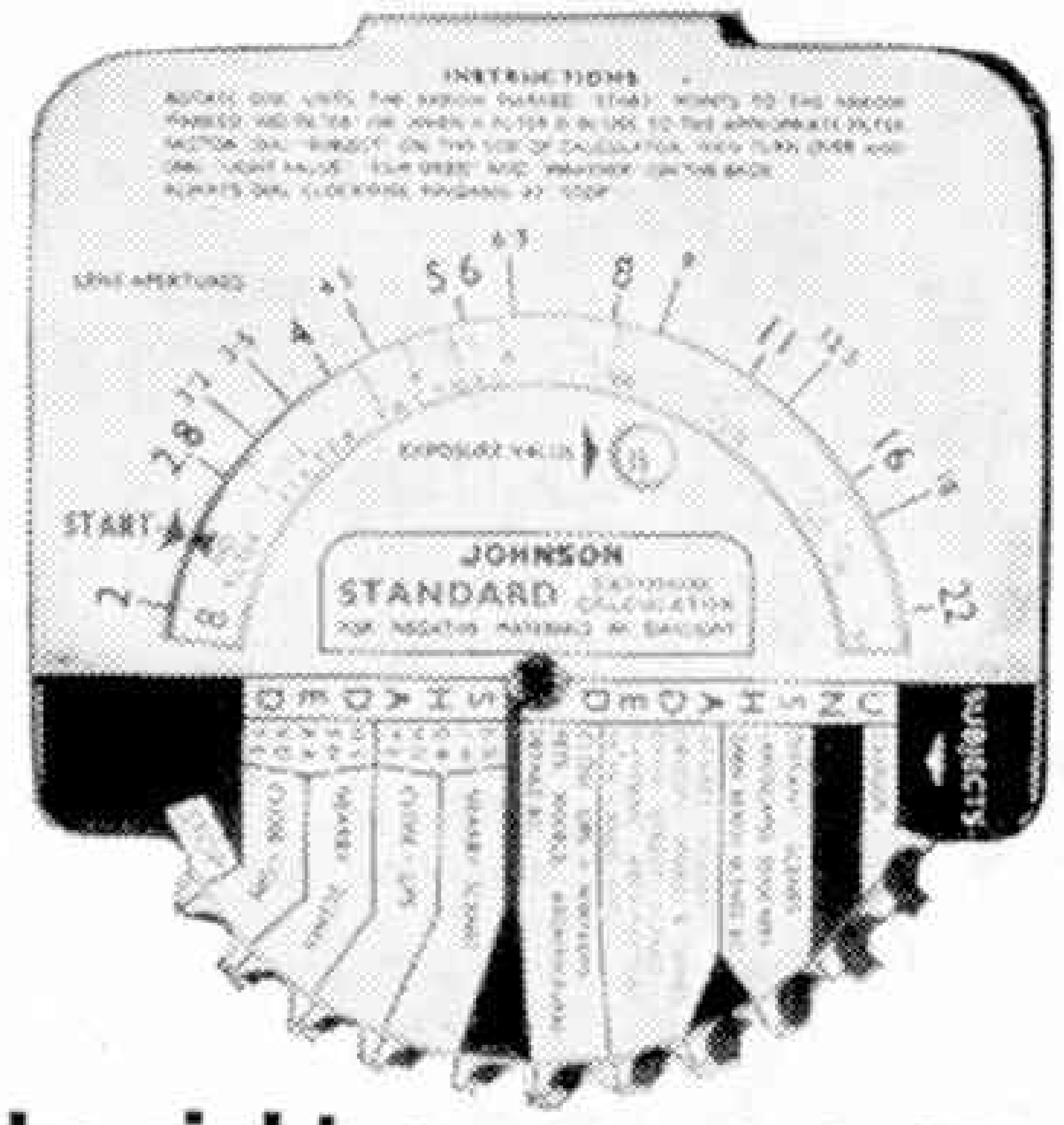

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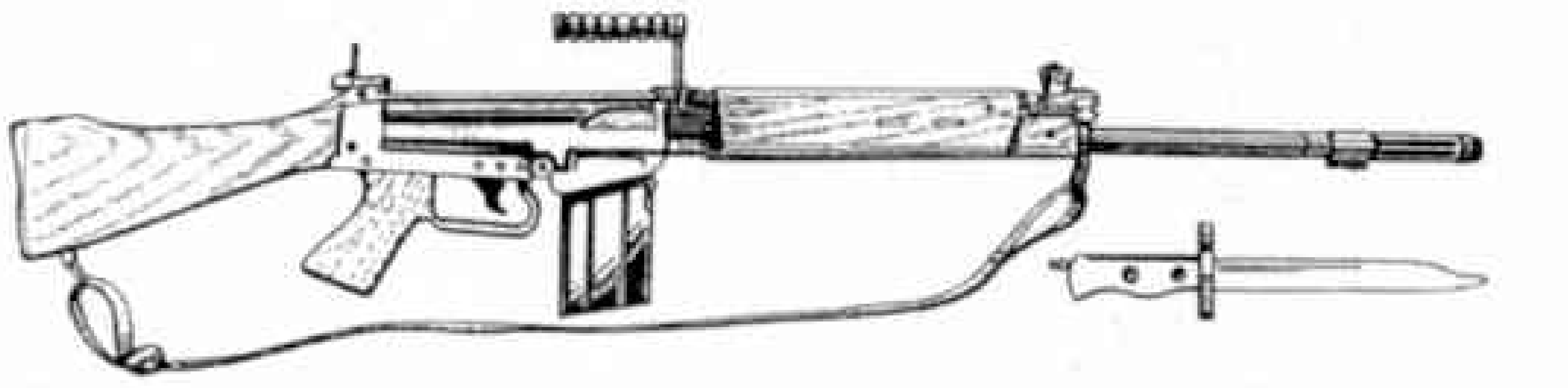

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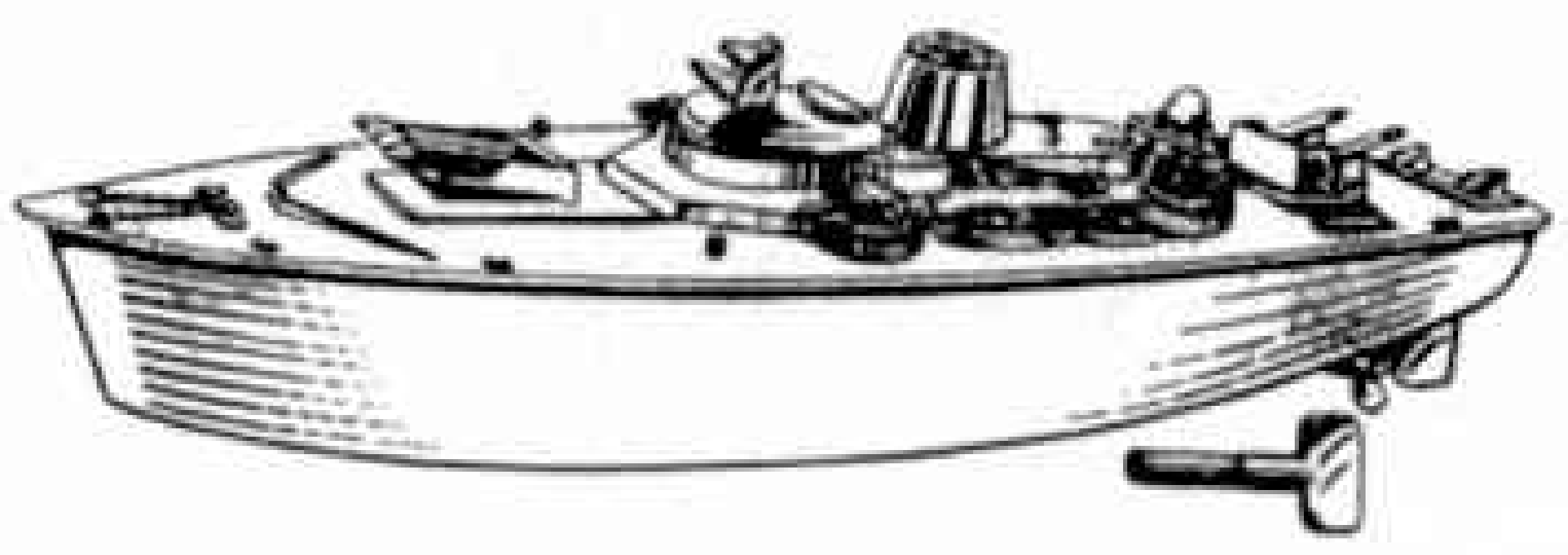

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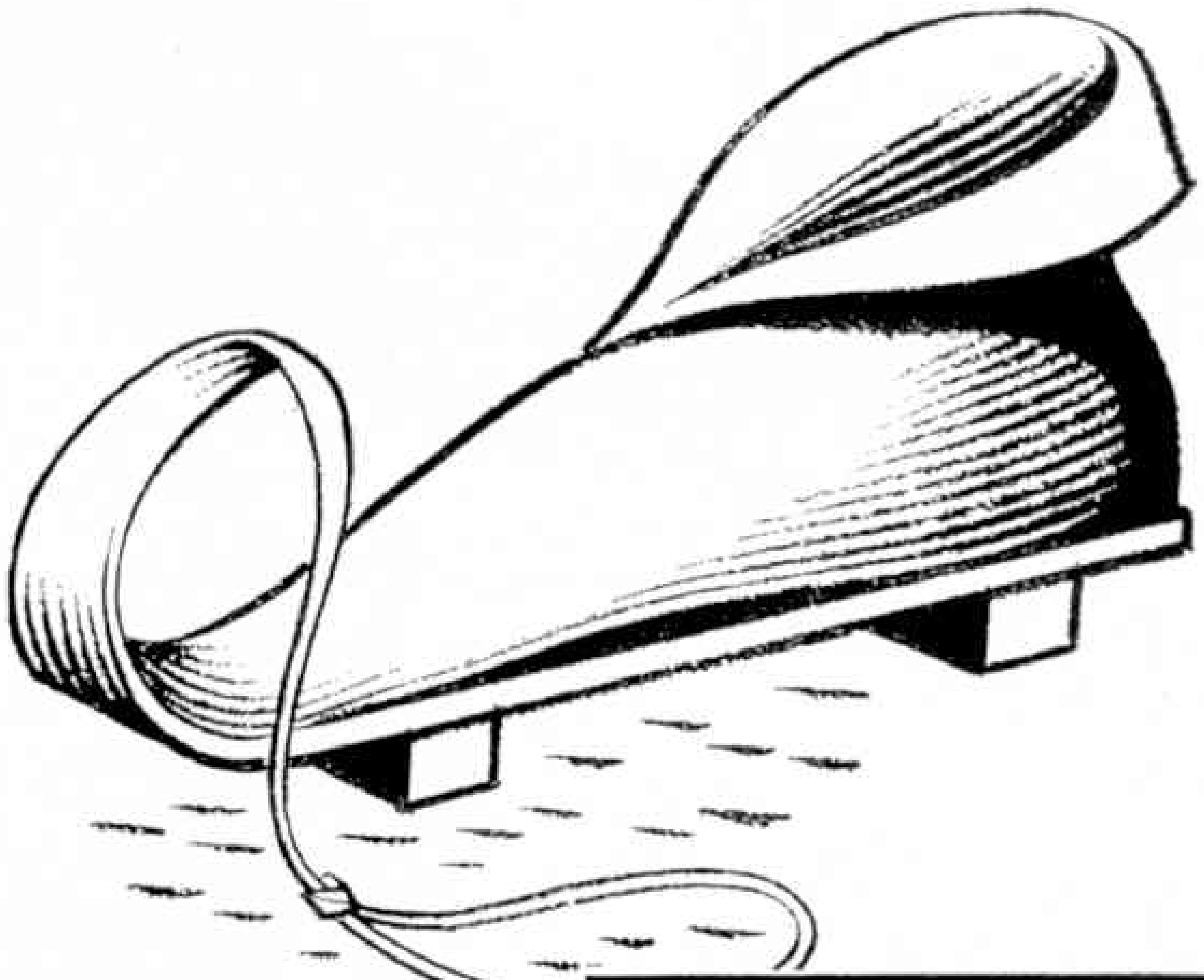

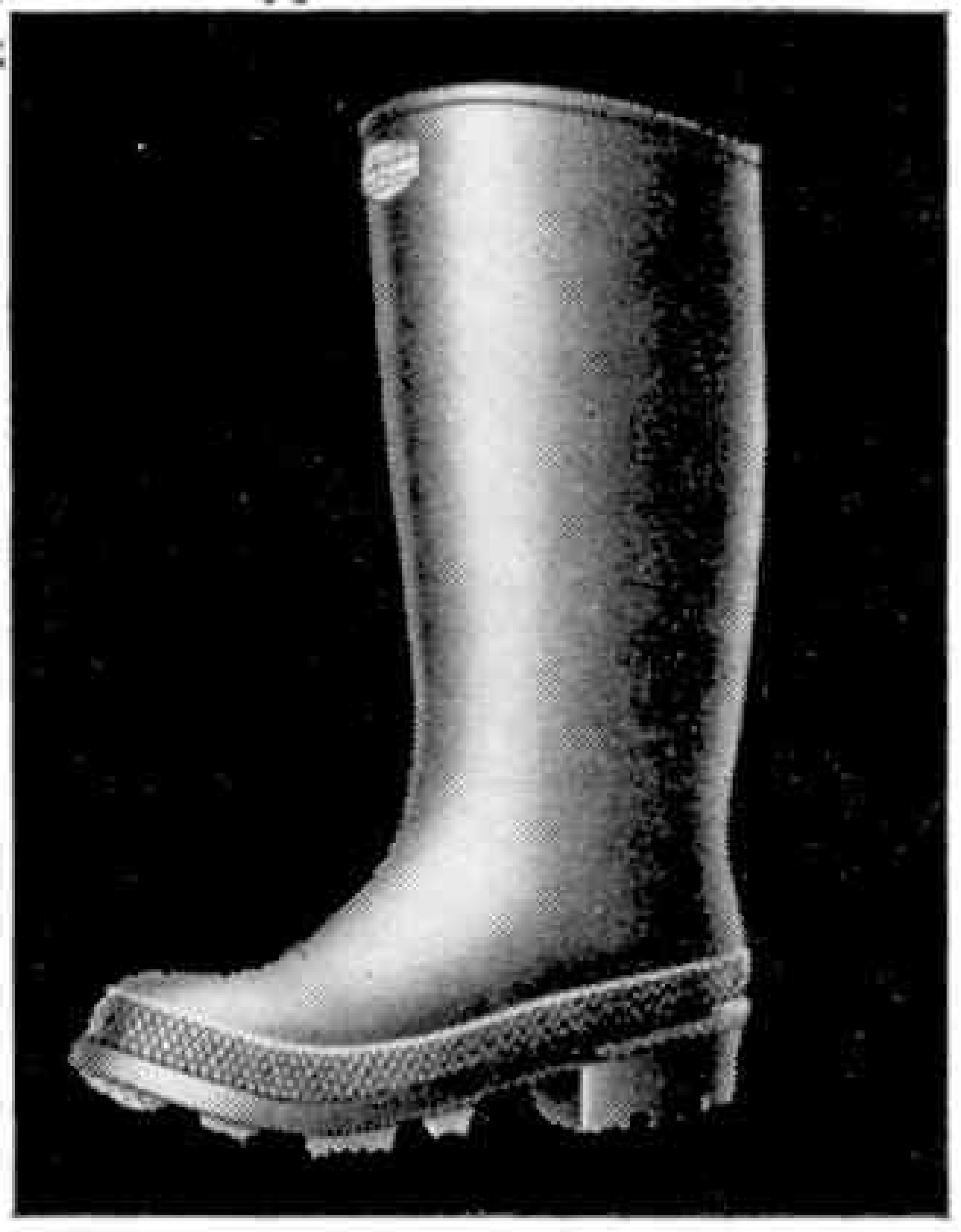

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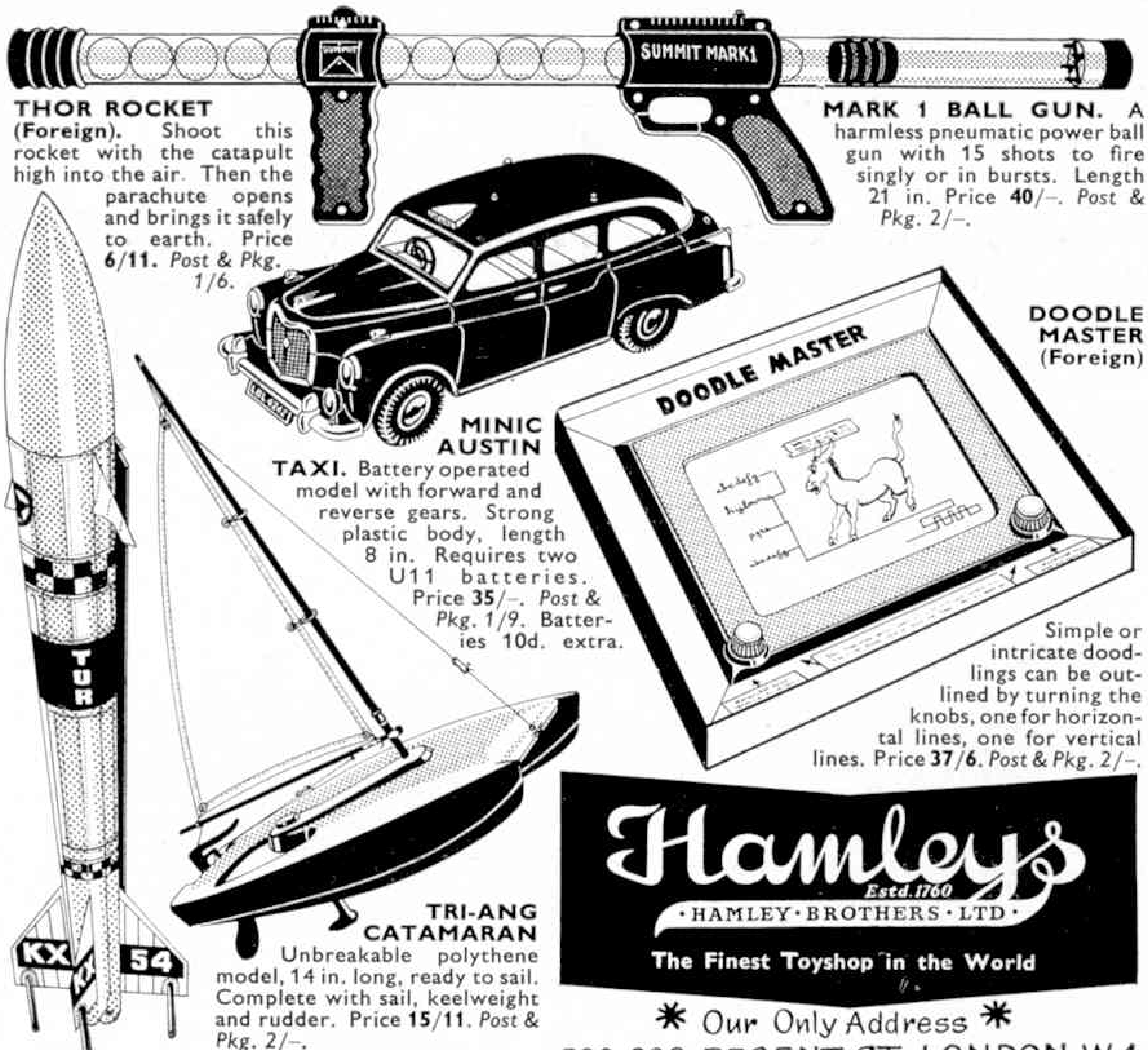

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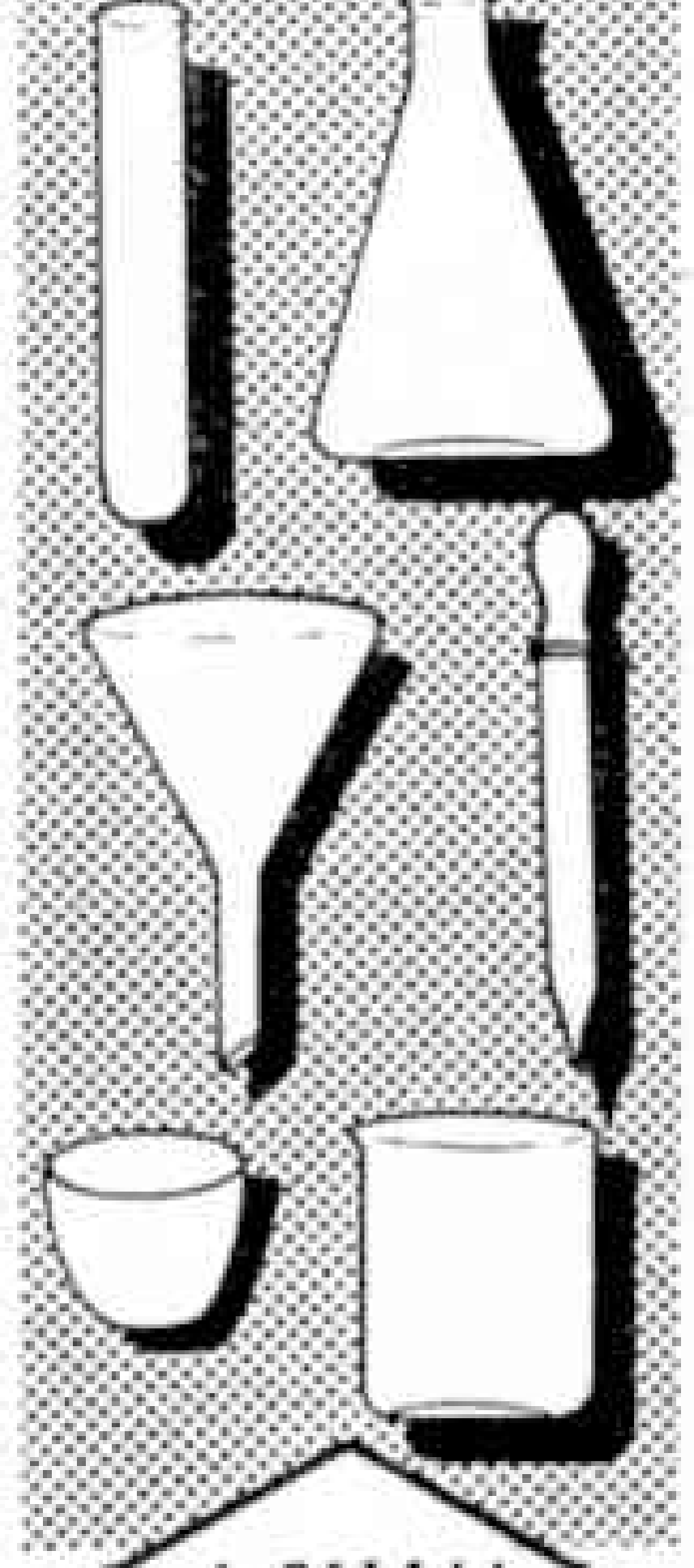

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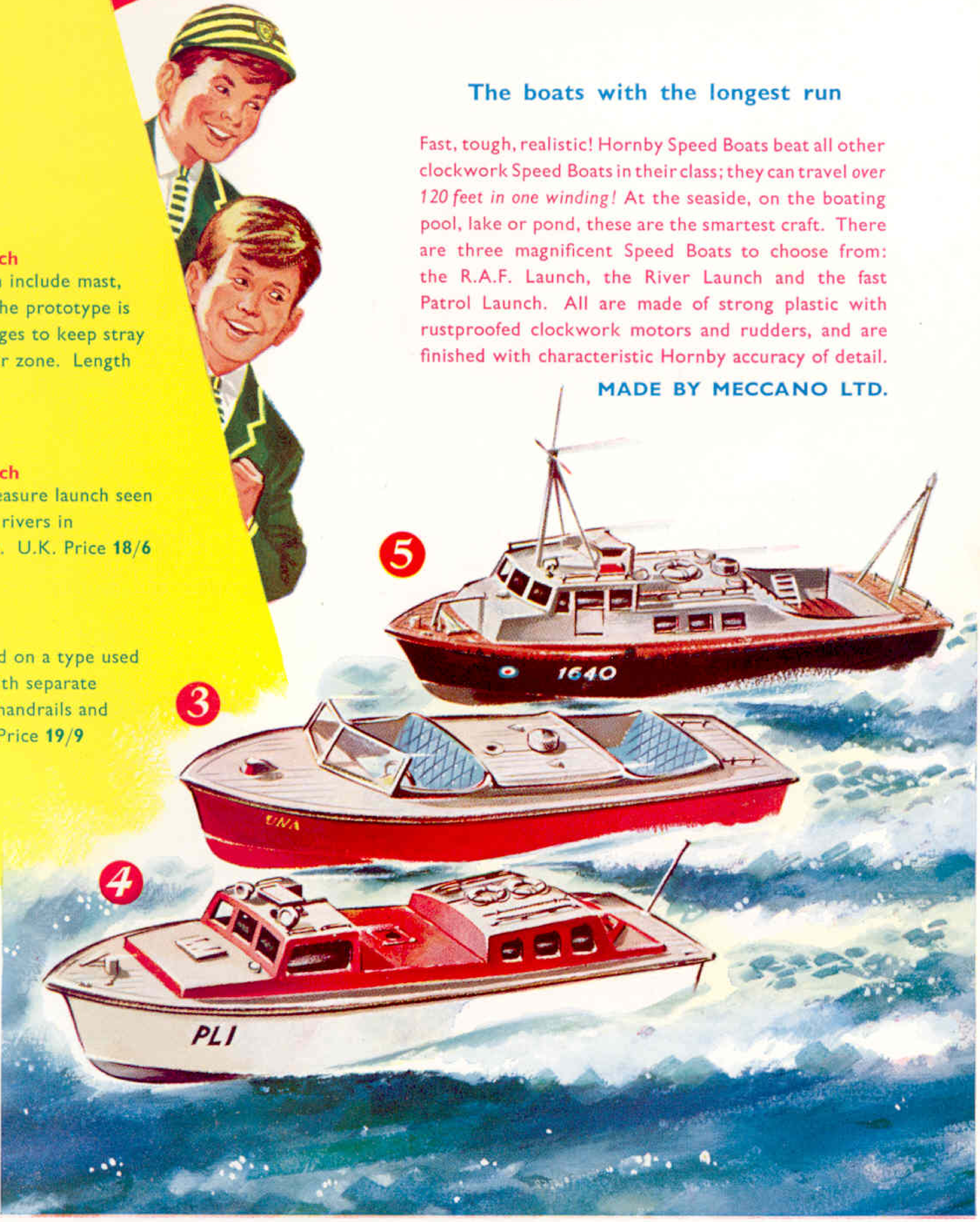

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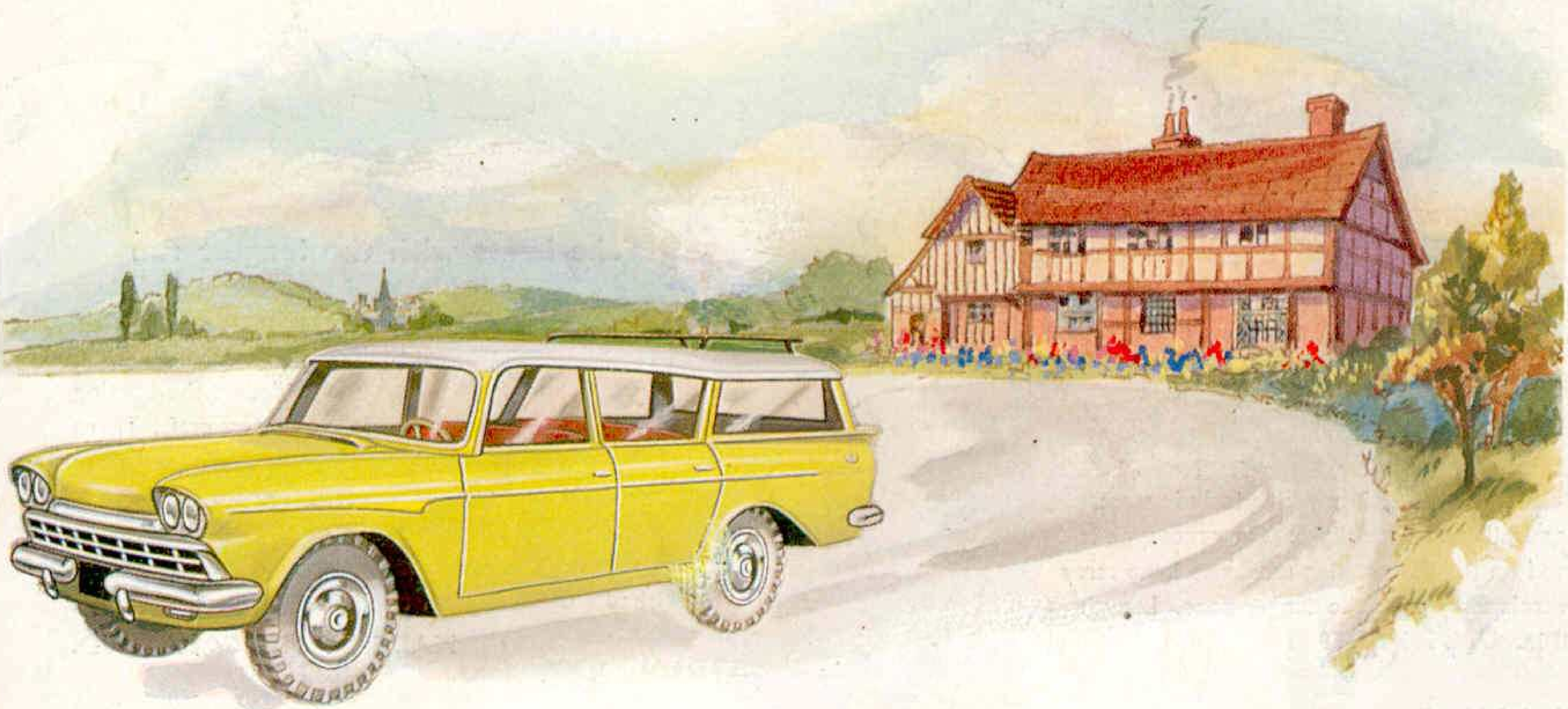

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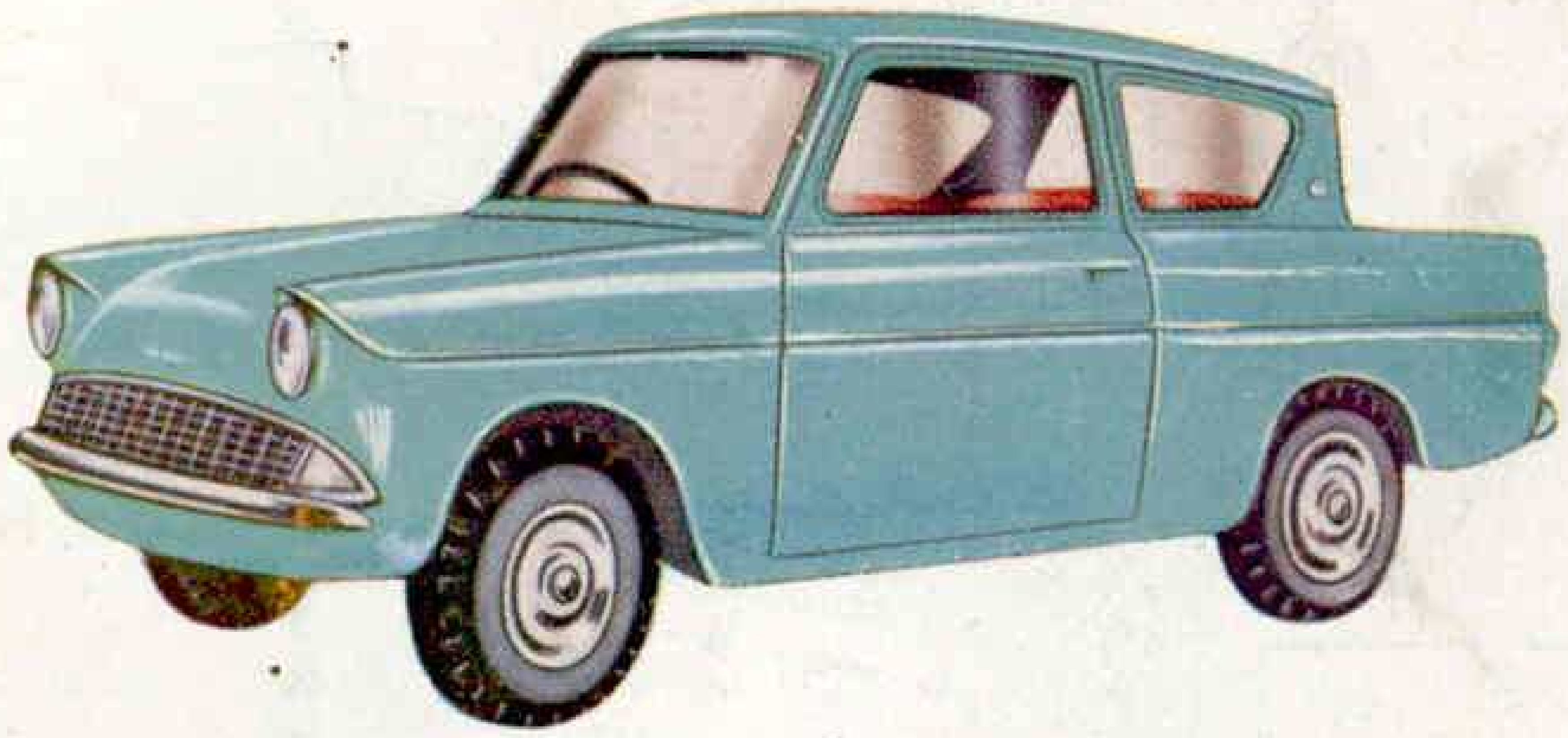

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